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AD POISON AND YOU

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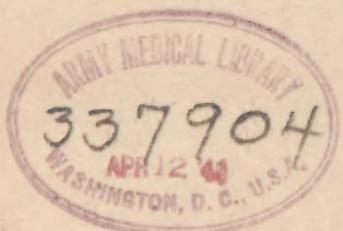
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(Revised June 13, 1926)

LEAD POISON AND YOU

Valuable information on physical, medical and
insurance angles which all craftsmen
should know.



Box 1220

Hollywood Station, Los Angeles

Written and Compiled by
O. HOWARD MILLS

Member Los Angeles Typographical Union
No. 174

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FOREWORD

In presenting this book to fellow craftsmen and others interested, the author does not intend the contents or any part of same as medical advice. It is a plain statement of facts regarding the writer's experience, covering a period of four years, with a number of physicians, in an effort to determine the cause of his illness, to find that, after a long period of suffering, an expenditure of hundreds of dollars, and his health impaired to the extent that he is permanently disabled, that the cause was finally diagnosed as plumbism (lead poison).

It is very evident that had he known four years ago what he knows today, or had the information contained in this book been available to him at that time, he could have avoided these years of suffering and permanent loss of health, and would, no doubt, be actively engaged in his chosen line of work, that of printer and linotype operator. Instead, he has been pronounced, by several reputable physicians, as "totally and permanently disabled," by a serious heart ailment which, according to many reliable medical authorities, may be and is caused by chronic lead poisoning.

Craftsmen, including printers, painters, plumbers, battery workers, etc., whose work brings them in contact with lead and the different compounds which contain lead, are exposed to the hazard in the form of fumes, dust, or by the handling of the metal.

Lead absorption is produced by three general methods: through the lungs by breathing fumes or dust; through the intestinal tract, from dust and small particles entering the mouth in eating from soiled hands; or, from pipe or cigarette laying around which has accumulated particles of dust; and, through the skin.

All craftsmen whose work brings them in contact with lead are subject to this hazard, and lead absorption begins the very first day they start work in these lines of endeavor. The amount of lead absorbed depends, of course, on the extent of exposure, the preventive measures used, and the worker's susceptibility. Some persons are much more susceptible than others.

In my opinion, persons who are not in robust health, and persons whose family records show a tendency toward heart ailments should not consider engaging in any line of work which necessitated coming in contact with lead. Strong, robust persons naturally have greater resistance in combatting the causes of any disease.

This book contains information which will aid you, or your doctor, in diagnosing your own case at once, if your illness is caused by lead absorption, thus eliminating possible long delays, complete loss of health, and the expenditure of a large sum of money.

According to reliable authority, there is only one way to determine the amount of lead absorbed by the body and that is by special urinalysis for lead poison. Considering the fact that even the largest medical clinics do not make this type of urinalysis and that most physicians do not know where to send you for

this test, it would seem, in my opinion, that the patient has a very small chance of having his case properly diagnosed.

You will also find complete information as to your rights in the procedure of bringing your case under jurisdiction of the Workmen's Compensation Insurance law, and medical authority by which several types of heart and kidney troubles may be connected with the disease and also be considered as compensation cases.

Legal and medical documents used in my own case are reprinted to make you familiar with the method used in handling same with the insurance company and the office of the State Insurance Commissioner.

All legal and medical forms and reports, opinions of medical authorities on lead poison and other diseases, and summary of California Workmen's Compensation law are printed in black type, the remainder of the text being the author's own opinions, based on reliable information and experience.

THE REASONS FOR THIS BOOK

When I first conceived the idea of telling of my experience with lead poison, I had in mind the thought that I would write an article on the subject and endeavor to have same published in the Typographical Journal so that all my brother craftsmen could know of, and benefit by, my experience.

After delving into the subject I found that to present the information which I wanted to put in the hands of all printers, the text would be far too extensive and require too much space to expect the Journal to publish it for me.

Furthermore, I came to realize that this information was valuable not only to printers, but that I should also include several other trades, including painters, plumbers, battery men, etc.; in fact, any and all workmen whose occupation necessitates their coming in contact with lead or lead compounds.

I decided it would be best that this information be put in book form, so that the contents could be preserved for future use in cases where the reader does not need it at the present time. I strongly advise you to not read the book and forget it or misplace it for it is my firm belief that it will be invaluable to either yourself or some friend, either now or at some future date.

If I can be of assistance, through my efforts in bringing this information before you, to help you to avoid the misfortune which has befallen me, and at the same time be instrumental in bringing enough

lead poison cases under the provisions of Workmen's Compensation Insurance law to cause the casualty insurance companies to use enough pressure, through their lobbyists, to cause the enactment of more safety measures into laws governing our working conditions, I will feel that I have performed a worthy mission.

In this section I will enumerate the points which I most want to convey to you, and if you will read the entire contents carefully you will find that these are not the writer's opinions, but that they are authentic statements and that every point is verified by medical and legal opinions.

1. Lead absorption is an accumulative process and you and all craftsmen who work with lead start absorbing lead the day you begin working around and handling lead, and this continues as long as you are exposed to the hazard.

2. Your susceptibility depends upon physical ability to eliminate the lead in proportion to the amount absorbed.

3. The lead has a slowing-up effect on the kidneys. After a time the kidneys are not eliminating an amount equal to the absorption. The result is that more and more lead is being absorbed and stored in your system.

4. Use every available means to minimize the amount of exposure, by keeping the room where you work well ventilated, do not eat anything with soiled hands, and try never to let your hands come in contact with your mouth while working.

5. Lead poison alone is a serious thing to contend with. When you take into consideration the fact that chronic lead intoxication can and does cause several

other more serious ailments, including arteriosclerosis, coronary sclerosis, myocarditis, neuritis, nephritis, etc., it is important that we try to stop it before this happens.

6. The first symptoms of lead poisoning are a general run-down condition, anaemia, loss of appetite, and intestinal disturbances, which the layman usually diagnoses as "indigestion."

7. Upon the appearance of the above mentioned symptoms, you should consult a reliable physician, tell him you are a lead worker and want a special urinalysis for plumbism (lead poisoning). Do not start taking baking soda and all the other supposed remedies for indigestion. They will not do you any good if your trouble is caused from lead poisoning.

8. After you have gone into the second stage of lead intoxication, which includes the blue gum line, colic, and possible blood changes, the lead intoxication has already caused irreparable damage. It is still possible to eliminate, to a large extent, the accumulated poison, but the damage done to your body cannot be repaired.

9. The third, and last, stage of chronic lead poisoning is paralysis and insanity.

10. If you are afflicted with the first symptoms enumerated, and those symptoms are caused by lead, you should stay away from the lead hazard until your physician can bring about the elimination of the lead which has been absorbed in your system.

11. Even at this stage if, on your doctor's diagnosis, you are ordered away from work until the elimination has been completed, you are entitled to all medical expense and weekly compensation, under the

provisions of the Workmen's Compensation Insurance Law, until such time as your doctor advises that you may return to your work.

12. There are three distinct symptoms which doctors consider in determining and diagnosing lead poison, to-wit: Blue gum line, certain blood changes, and colic. You will find medical opinions quoted in this book indicating that there may be no blood changes and that the blue gum line appears in less than fifty per cent of cases. The abdominal pains might be caused by any one of several different conditions.

13. The only positive way to identify lead poisoning and determine the amount of lead absorbed is the special plumbism urinalysis. This is especially true in the first and second stages of the lead intoxication.

14. Doctors and medical clinics are not equipped for and do not make this urinalysis. You can get it from the laboratories of commercial chemists.

15. If you are afflicted with one of the aforementioned heart or kidney ailments and can show medical proof that you also have lead intoxication, it is possible for you to receive compensation and medical care for these ailments, when associated with the lead poisoning, the same as this writer is doing.

16. If you should want to connect your lead poisoning with some other more serious ailment, you will find the medical references and opinions contained herein, and the methods used in presenting and proving my claim before the State Insurance Commission, of great value to you. Especially is this true of the findings and award in my case, which you will find reprinted in full in another section.

DON'T BLAME THE DOCTOR

It is not the writer's intention, in presenting this narrative, to in any way criticize or discredit the ability or sincerity of any doctor who attended me during the past four years, in his attempt to determine the cause of my illness. My purpose is to point out, as far as possible, the errors which, in my opinion, both the doctor and the patient may make in arriving at a proper diagnosis. The patient may, in some cases, be more at fault than is the doctor, by failing to relate what he may term minor symptoms and which may be of great importance, or he may exaggerate other symptoms. And taken all together, may make the evidence confusing or misleading.

Furthermore, it is very evident that a certain symptom may indicate, and may be caused by, any one of several things. For example, the patient may be suffering from chronic abdominal pains, which might be caused by stomach or intestinal ulcers, chronic appendicitis, gall stones or other gall bladder trouble, etc. Or, he may be anaemic, which could be traced to one or more of a dozen different sources. Therefore, it becomes the problem of the physician, with your assistance, to locate the source and cause of the trouble. I believe the general method used by most doctors is the old process of elimination; by taking up one at a time the various possible causes and eliminate entirely each one as he proceeds until he finds out definitely, to his satisfaction, the cause of the patient's trouble.

There seemingly would be more or less the possibility of luck entering into this method. If the doctor is lucky he may guess right as to the cause and find the trouble at once, or he may have to go all the way down the line, and find nothing wrong until he takes up the study of the last one of the possible trouble-makers on the list. So, at this stage of your illness, the doctor could rightfully be termed a trouble-shooter.

We should not expect to walk into a doctor's office and say, "Doctor, I have a pain in my abdomen," and expect him to tell us what causes that pain, merely by asking a few questions, feeling the pulse, looking at our tongue, and taking our blood pressure. It just can't be done. That would be just as ridiculous and unreasonable as it would be for a linotype operator to call the machinist and say, "The mats are not dropping as they should from this magazine," and expect the machinist to know instantly what is causing the trouble, for as in the case of the aforementioned abdominal pain, any one of several things may be causing those mats not to drop as they should and the machinist is going to use that same process of elimination to locate the trouble. He will never be able to make those mats drop as they should by tinkering with this and adjusting that, until he locates the specific part which is causing the trouble and makes the required adjustment or repair on that part.

The same is true with regards to you and your doctor. He can prescribe and you can take treatment indefinitely without any beneficial results if your doctor does not know to a certainty what he is prescribing for.

I was very unfortunate in that we did not locate the cause of my trouble until every other possible cause had been eliminated. But there is one thing that I am thankful for: in the process of elimination I learned definitely that I do not have cancer, ulcers, gall stones or any gall bladder trouble, and that my appendix, lungs, spleen, liver and kidneys are functioning properly and are not impaired in any way to the extent of causing trouble.

If I were practicing medicine, I would make it a hard and fast rule to never take a chronic case without the privilege of making a complete clinical examination of the patient before starting treatment.

I presume that in most cases where this procedure is not required by the doctor it is because of the expense connected with a complete clinical examination, as this requires considerable laboratory work such as x-rays, fluoroscope, chemical analysis, urinalysis, blood tests, etc., services which the average physician is not equipped to render. And this all costs money, but to the doctor and to the patient, it is very important and worth all it costs.

In conversation with one of my doctors some time back, he told me of a prospective patient, a lady, who came to him, through recommendation of another of his patients. This lady had been suffering from some unknown cause over a long period. After learning something of the history of this lady's case, the doctor informed her that he could not start treatment until after a complete physical examination, and that the cost of the examination would be around \$85.00. The patient threw up her hands and cried "robber," etc., and was ready to leave the office. She stated that she

had never paid more than \$5.00 for an examination in her life. The doctor suggested that possibly the reason she had been suffering for two years, and had taken treatment from several doctors without any beneficial results, was because she was not willing to spend more than \$5.00 for an examination. And it seems that was the end of their professional relationship.

It is not difficult to believe that it would have been much more economical for this lady, had she been willing to spend \$85.00 or \$100.00, two years previous, for an examination which would have clearly indicated the cause of her ailment. And it is also very reasonable to believe that had the doctor known two years ago just what was wrong, the lady very likely would have been in good health today.

The ideal way, in my opinion, to handle a case which involves one or more symptoms of more or less long standing and which could be classed as chronic, would be to first consult a physician who had been recommended by your County Medical Association, or one which you personally know to be in good standing with the County and State Associations. Thus, you will be assured of competent service, and not get mixed up with one of the many "quacks" which infest the larger cities.

I would explain fully and without reserve the full history of my case and request that I have a complete clinical examination to determine definitely the source and cause of my trouble, before starting treatment. Then if, in my opinion, the case was a specialized one and might need the services of a specialist in that particular line, I would look for a doctor who had had

considerable experience in the treatment of this particular disease, and furnish him with the diagnosis and the records of the case so far as possible and have him start treatment.

Or, one might go to one of the regular diagnostic physicians who, I understand, perform no other services than that of diagnostician, and who furnish you with all the records of the examination, and you may then go to any physician of your own choosing for treatment.

As an example of the value of experience in the treatment of any particular disease, this is what the physician who was treating me at the time we found that I had chronic lead poison said: He stated that "I will admit that I have learned a lot in the handling of your case; one thing is that, if I ever have another printer come to me with the 'bellyache' I will see that the first thing he gets will be the special test for lead poison." And this doctor is a man with many years' experience and is considered among the top-notchers in the medical profession.

Most doctors, I believe, think of their profession from a humanitarian standpoint and not just as another way of making money, and are more than anxious to help the patient on the road to complete recovery, with as little expense to the patient as possible.

The big mistake, in my opinion, that most patients make, is that of becoming discouraged and dissatisfied with the progress being made by the attending doctor, and deciding to try another one. When we consider the time it sometimes takes to arrive at a diagnosis, we are not doing the doctor justice if we

do not allow him the time to complete his examinations and treatment.

When we decide to change doctors the result is usually just this: the amount of money we have spent with this doctor is lost, and also the knowledge he has gained so far in your case is wasted. When we start in with another doctor, he necessarily has to start at the same point at which the previous doctor started. So, the patient is the loser, both financially and physically.

MY EXPERIENCE WITH LEAD POISON

Several years ago, I had begun to notice that my health was not up to standard and seemed to be gradually declining. Nothing seriously wrong, just did not feel well. This condition became more noticeable as time went on until I was becoming more or less draggy, not so enthusiastic or energetic as formerly ; my appetite was not good, and I was bothered considerably with constipation and what the layman usually terms indigestion.

I made the mistake of doing what about ninety-nine out of a hundred people do under like circumstances: I started diagnosing my own case and prescribing for myself from the list of hundreds of patent medicines, the advertisements of which we are confronted with every day in the newspapers, on the billboards, on the radio, and in every other conceivable way possible. It doesn't make any difference where or what your pains are, you can find an accurate description of them and also a sure cure in medicine ads of various forms confronting us constantly.

I spent a couple of years experimenting with everything from the good old reliable baking soda to Chinese herbs, compounded by a cross-eyed Chinaman. During this stage of my self-education in medicine, it is needless to say that my condition was not improving, but on the contrary, I was still on the downward slide, and I had gotten to the stage where I was just about able to drag around and that was all, and was compelled to miss a few days' work once in a while.

The idea of acting as your own doctor is very well analyzed in the following quotation: "The man who tries to be his own doctor has a fool for a patient and a fool for a doctor.—Dr. Ward Crampton, before Women's Exposition in New York."

I decided I was somewhat of a failure as a combined doctor and patient, so decided to be only a patient and take some professional M.D. in on the deal. After making this decision, my next problem was, who will be the doctor. We had never before needed the services of a physician since coming to Los Angeles, so I referred to the medical section of the telephone directory and selected the doctor nearest to where we were living, called him and made an appointment for the next day. When I called at this doctor's office I was informed that the doctor had left the city for a 30-day vacation, and that he had left his practice in charge of another doctor across the street and I was sent there. This substitute doctor was a man past middle age, who gave me the impression of the old-fashioned family doctor. I was favorably impressed with this doctor and my thoughts were that he would be able to fix me up in a short while so that I would be as good as new.

This doctor's examination consisted of taking my family history, a sample of blood from my finger, checking my chest with a stethoscope, taking my blood pressure and my pulse beat, and I recall he had me hop 20 times on one foot, and found that my heart beat increased from slightly over 100 to 150, and stated he could not understand what caused this great increase. I am calling attention to this latter statement so as to connect it with findings two years later.

The doctor gave me two prescriptions and stated he could not do much for me until I had all my upper teeth extracted. I had the prescriptions filled and went home. Thus ended my first experience with my first doctor. My confidence began to waver when I took the first dose of this medicine, to discover it looked exactly like, smelled exactly like and tasted exactly like the patent medicine I had been taking. And the druggist charged me \$1.35 for about the same amount I had previously purchased for 50 cents. The other prescription called for 12 black pills which I believe were only a mild cathartic for which I paid \$1.25.

I was not entirely satisfied with the idea of losing my teeth, but I went to a dentist and had all my upper teeth extracted.

I had four teeth extracted on my first visit to the dentist. That night I woke up with a severe pain in my abdomen, which lasted about two hours. This pain continued intermittently for about two weeks. The doctor prescribed several things for this, none of which gave any relief.

We now had a definite symptom to work on, but as abdominal pains of this type can be caused by so many different things, the doctor could not determine what was causing them.

I continued treatment with this doctor until the other doctor returned from his vacation, at which time my doctor informed me that I would now go to the doctor who I had originally called but had never seen. So I made an appointment and called at the office of my new doctor and had another preliminary examination. In the meantime my right forearm

broke out with something which resembled hives. There was also a splotch on my right leg. These places at times itched to beat the band, so my new doctor was confronted with two things instead of one. He did not state what his diagnosis was, but gave me the impression that he thought I had syphilis, and sent me downtown to a large clinic for a complete blood test and blood count and urinalysis.

I inquired as to what these findings indicated and he told me that the Kahn (syphilis) test showed negative, which meant that I did not have a trace of syphilis. He also stated that the report "merely confirms my original diagnosis that you have 'some kind' of an infection in your blood stream." He advised that I have the remainder of my teeth extracted. I had previously had X-rays made of all my teeth, so I called on my dentist and told him what the doctor had advised and asked him what he thought about it. This dentist's reply was "I am here to render dental service, but if I were you, I would not have them extracted," and stated that none of my remaining teeth were causing any trouble.

I decided that I would leave the teeth alone for the present but continued treatment for a while, but did not like this doctor's method of treatment as he treated me entirely by hypodermic injection in the arm and it was costing me \$3.00 for each dose of medicine and I seemingly was showing no improvement. But we at least had gained two points so far, by eliminating the teeth hazard, and the possibility of syphilis, thus the old process of elimination was operating slowly but surely.

At this time the abdominal pains were becoming

more severe and the attacks more frequent and lasted longer. I was working all of the time, five days a week, but when the attacks came it was almost impossible to carry on, the pain was so severe and caused such a depressed feeling. Many a shift I worked and spent about as much time massaging my abdomen or lying prone on my belly with pressure on my abdomen, as I spent in actual work. Sometimes the pain would be so severe that I would have to go home before the shift was completed. These pains were always spasmodic in nature in two different ways. The attacks would start at any time, night or day, for seemingly no reason and would continue from ten days to three weeks, and during this time would also be spasmodic in that they might last ten minutes or they might last two or three hours and then leave for maybe an hour or so and start again. Then again, I might be entirely free of pain for a few days, or, two or three weeks. During these intervals when there was no pain, the relief was so refreshing that more than once I thought we had hit upon the right thing and was permanently cured, only to have another and more severe attack come on without warning.

I decided to try my luck with another doctor; this time he happened to be a younger man. I assumed that possibly he would be up-to-date, in that he had not been so long out of college, and might have some new angles which would help him find out the cause of my trouble.

After another preliminary examination this doctor decided that it "looked very much like stomach ulcers." I was put on a diet and received treatment for ulcers, only to become worse almost immediately. I

had noticed before this that what I ate did not seem to have any effect, one way or the other, on my abdominal pains. During the time that I had been without teeth and had necessarily been on a semi-liquid diet the abdominal trouble was worse. As this present liquid diet seemed to have the same effect, it was evident that a liquid diet was not what I needed.

The doctor soon decided that my trouble was not ulcers, and his next guess was that I had a chronic appendix, and advised that I have my appendix removed. I did not object so much to taking all kinds of medicine for phantom diseases, but when it became necessary, in the doctor's opinion, to include ether, knives, and an operating table, without conclusive proof that such measures were necessary, I felt it was time to call a halt. I did not have the operation and have been assured since that time that my appendix is still functioning. I still have my appendix and the only thing I have missed by not following this doctor's instructions is the pleasure of telling about "my operation."

I was still in a bad way and was getting worse. I knew that I needed help, and needed it badly, but I did not know where to get it. I was very discouraged and would have been more so had I known what was still in store for me.

Then, one day when I was trying to work and suffering agonizing pain, one of my fellow workers suggested that I consult the doctor who was at that time treating him for intestinal and nervous disorders. So I called this doctor for an appointment, which was the beginning of another disappointing experience. First of all, I found that for a preliminary examina-

tion his fees would be \$25.00 with a charge of \$5.00 for each subsequent office call. I found that this doctor was classed as a neurologist, specializing in disorders of the brain and nervous system. His \$25.00 examination consisted almost entirely of a psychological mental test. I couldn't understand just how this was going to help my "bellyache," but I was at the stage where I was willing to try anything once.

After this purely cursory examination, I asked the doctor what he thought my trouble was. He stated it was "congested nerves in the solar plexis." You see, it was necessary to have the ailment come under his specialty. I asked him as to the cause of this alleged solar plexis condition and was informed that it was caused by "gastritis," which, by the way, does not mean a thing, but which merely reverts back to the fact that I had the "bellyache." I learned a few months later that on account of the disturbance to my digestive organs caused by the lead poison, I was also bothered with gas formations and acid conditions, and there is where the "gastritis" came in.

I at least got something different this time, as this course of treatment consisted of three kinds of medicine, therapeutic treatments, short wave radio machine, osteopathic manipulations of the spine and, of course, the lessons in applied psychology. This assortment of medical luxuries continued for a period of six weeks. Sometimes it would be one of the numerous kinds of treatments and the next time another. Seemed to depend on how busy the doctor was. If he had time he would see me and maybe take me in the room where he kept his osteopathic equipment and give the old backbone a few twists and that would be

all for that day. Maybe next time he would be busy with another patient, so he would turn me over to his good-looking secretary-assistant and she would attach one of the electrical apparatuses to me and leave me in a little two by four room, to enjoy this modern medical luxury for about five minutes while she hurried back to the reception room office to add another \$5.00 to my bill.

During the latter part of this six weeks' treatment the doctor suggested that I better go to an X-ray laboratory across the street for a series of X-rays of my entire intestinal tract. We made about thirty nice big pictures, about 15 inches square, which showed, for one thing, that my spinal column was in good shape, so I guess that either I did not need the spinal "adjustments" or that the four or five professional twists I had received, at \$5.00 per twist, had been very effective. Anyway, my spine was eliminated. Furthermore, the pictures did not show anything wrong in my intestinal tract, and just about eliminated the possibility of cancer, stomach or intestinal ulcers, etc., so we were at least getting a little further along in the elimination process.

About this time I was enjoying one of the short periods free from attacks and as this period lasted longer than usual, about three weeks, I really thought a miracle had happened and that I was cured. What really happened was this: During this treatment I had not been able to work and, of course, had not been in contact with the lead, which fact prolonged the period in which I was free from pain. Of course, no one knew at this time that I had lead poison.

So, with high spirits, I returned to work, and was

perfectly willing to give this doctor credit for effecting a cure. This course of treatments had cost another \$150.00, and the cost of the X-rays, which was \$40.00, but I was very thankful and well satisfied. I had worked about a week when, to my bitter disappointment, the same old trouble came on again, worse than ever before. I had been disillusioned and disappointed so many times and in so many different ways that I was almost frantic in my efforts to find out what my trouble was.

I decided to go about the task of finding out what was wrong with me in a less haphazard and more scientific manner. I was reasonably sure the trouble was in the abdomen, possibly in the intestinal tract, so my first step was to call the County Medical Association and ask them to refer me to a competent physician who specialized in intestinal diseases. This association will not name any specific doctor but gave me the names of three doctors who were members of the association and who were intestinal specialists. From this list, I selected one at random, and called for an appointment.

Upon calling at this doctor's office, I found a strictly professional type man, past middle age, who impressed me as a very competent and able physician. And he informed me right off the bat, without blinking an eye, that he charged \$100.00 for an examination, which would include X-rays, fluoroscope, chemical analysis of my bowel contents, urinalysis, blood tests, etc. It seemed as though he knew what it was all about, and would proceed in a scientific way, so we started in. I told him of the series of X-rays that I had just had made and he asked to see them. The last

doctor had these pictures, so I went to his office for them on the pretext that I wanted to take them home to show my wife, and he let me have them. It seems to be somewhat of an unwritten law that records of this nature become the property of the attending physician, although the patient is required to pay the laboratory for them. They are considered a part of the doctor's records and are not available to the patient unless the doctor wants to let you have them. When this doctor found out that I had taken the pictures to another doctor, he became quite hostile about the matter, but I had them and he had been paid for his services, so there was nothing further said about it.

I did not gain anything by securing this set of X-rays, as my new doctor, after examining them and admitting that they were an excellent set of pictures, insisted that I have the same series made over again in his laboratory so that he could check against the former ones. In my opinion the real reason was so that he could feel more fully justified in accepting the \$100.00 for the examination, as this series of pictures was supposed to be a part of his examination. In addition he wanted a series of X-rays of the gall bladder using the dye test. I told him that I could get this done at the laboratory where I had the previous work done, for \$8.00. He said I should go there as that was cheaper than he could do it. This is where I made another mistake, as I had to pay the laboratory this \$8.00 myself, which as I realized afterward would have been included in the bill for \$100.00 had I let him do it. But this turned out all right later, as the insurance company eventually had to pay the bill.

This complete examination consisted of about thirty

or forty more X-rays, fluoroscope observation for two days, chemical analysis of my bowel contents for ten consecutive days, numerous blood tests, urinalysis, etc., and taken all together, I think that he about earned the \$100.00. After this examination was complete, I asked him what his diagnosis was. He didn't know, which later events proved, but I assume he felt that he had to make a guess at it, to satisfy me, so he stated that my nervous system was "out of balance," whatever that means. Well, I continued treatment under his supervision for several months, changing medicine three or four times, and gradually getting worse all the time. The attacks of pain kept getting more severe, the duration of attacks became longer, and the intervals between attacks shorter, and my condition had become such that it was out of the question to try to work any longer.

About this time my wife, worried over my condition, and knowing that I had been doing everything humanly possible to find a remedy, and gradually becoming worse, called the doctor to have a talk with him. She suspected that possibly I had a cancer and the doctor was keeping it from me, as they usually do in cancer cases. He informed her that there was a remote possibility that I might have a malignant growth (cancer) somewhere but he was reasonably sure that I did not. He also freely admitted that while he knew that I was a sick man, he did not know what was causing the condition.

During the preceding few months, in my desperation, I had been doing considerable reading and research work in an effort to diagnose my own case and had arrived at the conclusion that there was consider-

able evidence that I might be suffering from the effects of lead poison. I called at his office to tell him of my suspicions and suggested that he examine me thoroughly for lead. He stated that he had done so. I inquired as to what method he had used and he said blood tests. I understand the blood tests show only the condition of the blood in a general way; number of red corpuscles, quality of the blood, etc., and as a former doctor had stated, whether or not there was "some kind of an infection in the blood stream." I understand that these blood findings, taken alone, would never produce conclusive evidence of lead poison.

The thing that a doctor would look for in a blood examination of this kind would be stippling of the red corpuscles. Medical evidence produced later on in this book show that there may be no blood changes at all, and if there has been changes, these changes entirely disappear if the patient has been away from the lead hazard for two or three weeks.

So, to be absolutely sure about the lead theory, the doctor said he would send me downtown to one of the large medical clinics for a special urinalysis for plumbism (lead poison), to find whether or not the urine contained lead. This poison is eliminated through the kidneys and the urine contains lead, in proportion to the amount of accumulated lead in the system. I called at the specified clinic next day for the examination, only to be informed that they were not equipped for, and did not make this test. They called the doctor, informing him of this fact, and then informed me that I would have to go to some commercial chemical engineering concern and gave me the names

of two such firms. I called on one of these and delivered my sample of urine and again called at their office, two days later, for the report. Because I paid for this analysis, they delivered the report direct to me, for a charge of \$5.00. Usually a report of this nature is mailed to the prescribing physician.

I understand that this method of urinalysis consists of evaporating the urine and leaving the lead content for measurement. The report disclosed .08 miligram per liter (quart) of urine, four times the amount required to cause considerable disturbance, according to the doctor. He immediately changed medication and started treatment for lead poison.

About a week later, I accidentally learned that lead poison was considered as an occupational disease and came under the jurisdiction of the Workmen's Compensation Insurance law. Naturally, it was some consolation and mental relief to learn that I would be at least partially reimbursed for the expense which I would incur, and would be paid in part for the loss of work in the future, although this fact did not lessen in any way the physical suffering I had endured during the preceding two years, and for the damage already caused to my general health.

Upon learning that I was entitled to compensation, I immediately informed my employers as to the medical findings and that I understood it came under the insurance coverage. They stated that they would notify the insurance carrier, and thirty minutes later one of the numerous claim adjusters for a well-known insurance company called me on the telephone to instruct me to call at a given time at a certain doctor's office for an examination, the purpose of which was

to verify the medical findings already presented. This procedure required a very extensive examination which, of course, the insurance company paid for. When this doctor, who, by the way, I had never seen before, had completed and sent in his report, I was called to the insurance company office for a complete and detailed report of my sickness, and was then and there informed that they would assume all medical expense connected with the case in the future and that I would start drawing compensation at once. In fact, he gave me a check for the first week at this time.

I was informed that this last doctor would take care of me in the future, but I suggested that my own doctor, who had been attending me the past six months and who had the entire records and history of my case up to the present time, and was, therefore, more familiar with the case than any other doctor, be allowed to continue. After investigation by the claim agent, who found that my doctor, to use his own expression, was "tops" in the medical profession in Los Angeles, he consented to this arrangement, and my doctor continued in the capacity of the insurance company's medical representative for a period of four or five months.

During the latter few months of the lead treatment I had been noticing pains, at times rather severe, in front of both shoulders. I did not give this matter much thought, but noticed that these pains usually followed some physical exertion, especially walking briskly. I really thought the pain was in my lungs. I mentioned this to the doctor a few times, but never happened to be bothered with this trouble at the time of calling at his office. He did not seem to pay any

particular attention to this, until one day I called at his office and during a short wait in his reception room I had a slight attack and walked outside in the air for a few minutes and the pain subsided, and I did not mention it to him. After talking with him and upon leaving his office, I walked a block to a drug store and stood on the corner a few minutes and had started back to his parking lot for my car when, almost without warning, the attack returned and was so severe, I was forced to sit down on the curbing for a few minutes before I was able to return to his office. When I got back and told him what had happened, he seemed much concerned and informed me that it was my heart.

He sent me, next day, downtown to a clinic for an electro-cardiograph heart examination, the result of which confirmed the fact that I had angina pectoris, caused by coronary sclerosis, or hardening of the heart arteries. He immediately called the insurance company and informed them of this condition and they called me and told me to call next day at a well-known heart specialist's office for another examination, to verify the report of my doctor.

The insurance company claim agent asked my doctor if, in his opinion, there was any connection in the lead poison and the heart ailment and the doctor said, "In my opinion, there is no doubt about it." I guess that statement ended his professional services in my case, for I was transferred at once to another doctor, one of their choosing and, incidentally, the same one to whom they had originally sent me for an examination to verify the fact that I had lead poison, six months previously.

This doctor's main duty and object, in my opinion, seemed to be to discredit my claims and also the severity of my illness, in every conceivable manner, in all his written reports sent to the insurance company, and later to the Industrial Accident Commissioner, in an effort to disclaim liability so far as my heart ailment was concerned. This, in face of the fact that this doctor's reports conflicted with the opinions of several other well-known and reputable doctors, combined with an abundance of evidence produced in medical books by unquestioned authorities.

At this time the insurance company filed notice with the State Industrial Accident Commission, requesting a hearing for the purpose of determining whether or not lead poison was the cause of or was a contributing factor in causing the heart condition. And, if true that the heart ailment was caused from chronic lead poison, as contended, should not the lead absorption be considered as accumulative over a long period of years and therefore part of the liability rest with other insurance companies which carried the compensation insurance of former employers.

Pending this hearing and the findings of the Insurance Commission, the insurance company discontinued my compensation payments, which the law allows them to do, but continued the medical service, such as it was. The date of the hearing was set and the insurance company, as plaintiff, and myself, as defendant, were instructed to be present on this date and present our evidence pro and con in the case. I could have had the services of an attorney, at my expense, to represent me at this hearing, but I preferred to present my own case.

The hearing consisted of the taking of evidence offered by the claim adjuster who had been handling my case, together with one witness, who was represented as a "safety engineer"; representatives of the two other insurance companies involved; and, myself. The hearing was conducted by a member of the staff of the Insurance Commission, known as a "Referee," assisted by a reporter or secretary who took down the proceedings verbatim for use of the Commission in arriving at a decision in the case.

The so-called "safety engineer" which the insurance company presented was, in my opinion, a "flop," and his statements were not at all convincing. One of his statements was to the effect that hoods and exhaust pipes were placed over linotype metal pots for no other purpose than to carry monoxide fumes caused by the gas heater flame underneath the pot. It seems that he was not aware of the fact that gas-heated linotype pots have been obsolete for the past fifteen or twenty years, except in a few obscure cases. Another statement was that one of the things he observed in his investigations was to note the condition of the linotype, so as to determine the habits of the operator as to cleanliness, etc. He didn't know that in all the larger composing rooms, such as I had been employed in for a number of years, that the operator does not care for the machine and that this work is done entirely by the machinist or his helper.

Later in the book, I will present other evidence and statements used by the insurance company, from their doctor, to give you an idea of the tactics and methods used by some large insurance companies in an effort to deny liability. In fact, in my opinion, they

would rather spend \$1,000 in evading liability than spend \$500 in compensation to an injured workman, for which they gladly accepted the annual insurance premium for carrying this liability.

About thirty days after the date of the hearing the Industrial Accident Commission notified the insurance company and myself that if there was no further evidence presented within ten days, the Commission would make its findings, based on the evidence already presented. Again, the insurance company showed to what degree of pettiness they will resort in the handling of a case of this kind. On the tenth day of this ten-day waiting period, they sent in another report from the attending physician.

The honesty and sincerity in the evidence as presented by myself together with unbiased facts seems to have outweighed the tactics used by the insurance company, as shown by the decision and award by the Commission, ordering the other former insurance carriers eliminated from liability and further ordering the last insurance carrier to pay me the stated weekly compensation, together with medical care from the beginning of my total disability and indefinitely.

I have been informed that the findings and award of the Industrial Accident Commission in my case set a precedent in compensation insurance in California; that I am the first person in the state to be awarded compensation for a heart ailment associated with chronic lead intoxication.

This report of findings and award in my case is reprinted in the following section and may be of value to you in presenting your case before the proper authorities. The next section may seem somewhat unin-

teresting, as it is composed of medical and legal reports used in presenting my case before the Commission, but I suggest that you read it carefully, as it may be very valuable to you, and your doctor, in establishing any case similar to mine.

I have endeavored to avoid anything that would be of no value to you and include everything which may help you at a time when you might need this information.

Since my case has been definitely settled, and taking into consideration the fact that it was settled in my favor, I hold no malice toward anyone connected with the case. I realize that each party had a duty and job to perform and, no doubt, did the same as you or I would have done had we been in their respective jobs.

After all, insurance company adjusters, etc., are only "hired men," the same as you and I, and their job is laid out for them and their security depends on how well they do that job.

DOCUMENTARY EVIDENCE USED IN MY CASE

This section includes clinic reports, doctors' opinions and reports, and legal forms used by the insurance company and the State Industrial Accident Commission, from the time we found that I was suffering from lead poisoning until the final disposition of the case by a permanent disability rating by the Commission. This information will make you familiar with the methods of procedure in a case of this kind, and shows how this writer was able to connect coronary sclerosis with chronic lead poisoning, causing the Industrial Accident Commission to set a precedent in this case, awarding the plaintiff compensation for a heart ailment, the first award of this nature to be handed down in the State of California.

This information may be of great value to you, should you have a similar case to present to your State Industrial Accident Commission or other agency which handles Workmen's Compensation Insurance in your State.

There is also another very important fact brought out in these reports, to-wit: Scientific chemical reports confirming the fact, which all printers know, that there are poisonous fumes coming from linotype and monotype metal pots, the metal in which is constantly kept at a temperature of 550 degrees Fahrenheit.

This report is based on the amount of fumes pro-

duced by heating a small amount of linotype metal to the required temperature in the chemist's own laboratory, and which states that in this test they found that when the metal was heated to 550 degrees the air immediately over the molten metal contained 0.1 milligram of lead per cubic meter of air.

Considering this report as accurate, it is evident that in a printing establishment where numerous metal pots, each containing several times the amount of metal used by this chemist, and which are kept at this temperature twenty-four hours a day, seven days a week, there is a very large amount of lead fumes released in the room. When we know that these fumes are being constantly produced in a room and the room is not properly ventilated, there is no doubt but that the entire air is full of these poisonous fumes at all times. This is especially true in California where most places of employment have very little or no heating equipment, with the result that during the winter months, especially at night, the windows are usually kept closed in order to keep the room more comfortable.

It would be just as unreasonable to argue that the room does not become badly contaminated with this poison as it would be to say that automobiles do not produce monoxide fumes because there are thousands of automobiles on our streets at all times and no one suffers from the ill effects of monoxide poison, while driving on the streets or highways. We do know that if you force the fumes produced by one automobile into a closed car that any person inside the car expires in just a few minutes.

By using this same theory in connection with metal

pots used in printing establishments it is easy to understand that in a short time the hazard in the workroom becomes almost as great as in the aforementioned automobile. The main difference being that the lead fumes and vapors are not so quick-acting as the monoxide fumes, but in the end are just as deadly.

In California there is a law on the statutes which reads like this:

DUSTS, FUMES, VAPORS AND GASES SAFETY ORDERS. Order 1901. Application.

(a) These orders shall apply to every place of employment where a work or process is carried on by which dusts, fumes, vapors or gases of a harmful nature are produced or generated, or exist independently of the work or process, which may be inhaled in quantities or concentrations that constitute harmful exposure as hereinafter defined or be in any manner injurious to health.

ORDER 1905. LOCAL EXHAUST VENTILATION.

(a) Where required:—All equipment and processes that emit or create harmful dusts, fumes, vapors or gases in quantities that tend to injure the health of employees exposed thereto, and where general ventilation alone, or in conjunction with other provisions of these orders, is inadequate to furnish the required protection, shall be connected to an exhaust system for the removal of said hazards, as far as practicable at their point of origin.

Then, in Appendix A, we find:

The Commission recommends that the following limiting concentrations be used as a basis in determining the existence of a health hazard in places of employment.

Lead..... 1.5 mgs. per 10 cubic meters

In a recent test by a well-known Los Angeles chemist it was found that linotype metal gives off 0.1 milligram of lead per cubic meter of air. It therefore seems reasonable to conclude that in a room where the air is not constantly being changed that in a very short period of time the air would contain far more than 1.5 milligrams per 10 cubic meters of air, the amount which the Commission considers as a hazard.

The "out" used in evading this law seems to be the fact that the amount produced is slightly below the amount considered as hazardous. This is not taking into consideration the fact that the amount of lead is continually increasing unless the fumes are being expelled from the room as rapidly as the machines are producing them.

Active local unions are constantly, through their welfare committees, endeavoring to better working conditions, but I contend that a number of compensation cases similar to my own will do more, and do it in a shorter time, to bring about the enforcement of preventive measures than all the union activity that we can put into use. In my opinion, it would not require many of these cases before the large casualty insurance companies would see to it that all safety regulations were enforced.

The following clinic report is not of much importance and I am giving it more because it is the first examination of this type I had. This is the report which the doctor at that time stated: "It merely confirms my original diagnosis that you have 'some kind' of an infection in your blood stream."

NAME OF LABORATORY

Los Angeles, Calif.,
March 4, 1936

Doctor.....

Patient—Mr. Mills

URINE: Transparency—Clear; Color—Dark Amber; Specific gravity—1.022; Odor—Normal; Total solids—51.2; Reaction—Acid 2 plus; Albumin—Neg.; Sugar—Neg.; Acetone—Neg.; Diacetic acid—Neg.; Indican—Normal; Bile pigments—Neg.; Hemoglobin—Neg.

BLOOD: Erythrocytes—5,130,000 per cmm.; Leukocytes—13,400 per cmm.; Hemoglobin—12%; Color index—1; Polynuclear neutrophils—84%; Eosinophiles—2%; Lymphocytes—12%; Myelocytes—2%; Stained smear—Anisocytosis; Platelets—Normal; Chemistry—Sugars 114 mgs. 100; Kahn test—Neg.

MICROSCOPICAL: Cells—Pus 2 plus, Trans. Epith. 2 plus; Casts—Neg.; Cylindroids—Neg.; Crystals—Calcium oxalate 2 plus; Mucus—1 plus; Amorphous material—1 plus; Bacteria—Non-identified; Spermatozoa—Neg.

Following examinations included about fifty X-ray pictures of my entire intestinal tract, chemical analysis of my bowel contents, urinalysis, blood tests, etc., by my second and third doctors. There was no report made in these two cases as they were prior to the time it was found I was suffering from lead poison. The only information I have concerning these reports is that from them the doctors could not determine what was causing my illness, and established the fact that I did not have cancer, ulcers, gall bladder trouble or appendicitis.

This brings us up to the time that I insisted on having a special examination for lead poison and the attending doctor sent me for the special lead poison urinalysis, on July 17, 1937. This chemist report follows:

July 19, 1937

Volume of sample submitted.....	1750 cc.
Lead (Pb) Milligrams per liter.....	0.056

Upon receipt of this report, my doctor stated definitely that lead poison was causing the trouble. He also stated at this time that 0.02 milligram of lead per liter of urine would indicate lead intoxication to the extent of causing considerable disturbance in the intestinal tract.

Now that the cause of my condition was finally correctly diagnosed and I discovered that lead poisoning is considered an occupational disease and the workman is protected by Workmen's Compensation Insurance,

I reported these facts to my employer and they in turn reported to their insurance carrier.

The insurance company readily accepted the liability and instructed me to report at once to a doctor of their own choosing, for a complete physical examination. This doctor's report was as follows:

July 28, 1937

.....Insurance Company

Los Angeles, California

Gentlemen:

Mr. O. Howard Mills, occupation linotype operator, married, white, was examined by me at my office on 7-24-37 at your request.

HISTORY:

On or about August 20, 1935, as the patient was "feeling run down," he had four upper teeth (retained carious roots) extracted. That night he developed abdominal cramps lasting "a couple of hours." They recurred intermittently for about two weeks. Sometimes he became nauseated and gagged. Subsequently he felt good for two or three weeks.

Similar attacks and remissions have been recurring ever since. He has been "more or less constipated all the time" and has taken laxatives and cathartics, sometimes with relief of the abdominal cramps. The attacks have grown gradually more severe and the remissions shorter in duration.

About two or three months ago his stools were mushy and green for a couple of weeks and cramps were of unusual severity. Since about that time he has had an "aching like rheumatism" across the an-

terior chest, greater on the left. An electric pad relieves it.

Frequently he has gone to work feeling well only to develop disabling abdominal cramps after a few hours. He lost 7 days in 1936, 24 days in May, 1937 and 7 days in July, 1937.

His weight has dropped gradually from 170 to 145 pounds since the onset. General weakness has been progressive. He has noticed no weakness in his arms or legs but occasionally has awakened with severe cramps in his feet. He has had slight dizziness after suddenly getting up but has had no headaches.

About two weeks ago, during a nocturnal attack of abdominal cramps and bloating, he discovered a swelling (hernia) in his right groin. Two days later he secured a truss which he has been wearing day and night since without any relief of pain.

He has become quite nervous and irritable inwardly during the past two years, but has noticed no tremors of his hands.

PRESENT COMPLAINTS:

Recurring attacks of abdominal cramps and bloating, lassitude, generalized weakness, nervousness and irritability.

Functional Inquiry by Systems:

S. S.—Hearing is good. Vision is good with correction. Present lenses have been worn since 1933. Smell "never was keen." Taste has been subnormal since upper denture was fitted in 1935.

Card.—Resp.—negative.

G. I.—No sour eructations, belching or flatus. Occasional painless, bleeding piles for the past 20 years.

G. U.—Day urinary frequency 3 times; nocturia 1 time during past two years but not previously.

Neuro.—Had an "hysterical crying spell about two weeks ago when pains came on on the job." No paralysis or paresis.

PAST HISTORY:

Measles, mumps, and whooping cough in childhood. Influenza for 6 wks. in 1918,—"slept most of the time." No accidents or operations.

FAMILIAL HISTORY:

Father died at 72 years of initial heart attack. Mother died at 63 years of Bright's disease. One brother and one sister are well. Wife and 17-year-old daughter are well.

OCCUPATIONAL HISTORY:

Linotype operator 1922-37, except for two years unemployment. He has worked for present employer for the last four years. Printer and linotype operator 1902-22 except for one and one-half years as insurance salesman and two years as interurban car conductor.

EXAMINATION:

Height—69½"; weight—148 lbs. stripped; temp.—98; pulse—80; resp.—18; blood pressure—140/88.

General: Patient is a greying, worried, medium developed and nourished, white male of about 55 years.

Head: Scalp is slightly bald. Eardrums are normal; hearing is good. Vision is good with bi-focal glasses. A large spur and left deviating of the septum partially obstructs this nasal passage. Eight stained (one loose) lower incisor, cuspid and bicuspid teeth remain.

A complete upper denture is worn. There is no lead line. Tongue protrudes in the mid-line. Tonsils are submerged and atrophic. Face is symmetrical and free from edema.

Neck: Movements are normal. There is no tenderness.

Heart: is normal to percussion and auscultation.

Lungs: are resonant and free from rales.

Abdomen: is soft and non-tender. A gurgling protrusion about two inches long by one inch high is seen and palpated in the right groin. It reduces spontaneously when the patient reclines. An ill-fitting, new truss, which does not maintain reduction of the hernial mass and which rests high about the inguinal canal, is worn. The right external abdominal ring admits the middle finger snugly; the left, easily. A faint impulse, but no hernial protrusion, is detected on the left.

Gentialia: Testes and epididymi are normal. Prostate is slightly enlarged and tender on the left. External hemorrhoidal tags are seen.

Musculo-osseous system: Spinal column is straight and non-tender. Right shoulder is slightly lower than the left. Hands are steady. Lower extremities appear to be symmetrical. There are no gross muscle weaknesses in the extremities.

Nerves: Biceps, triceps, forearm, and tendo Achilles jerks are equal and normal. Patellar jerks require reinforcement. Abdominal and cremasteric reflexes are not obtained. Romberg's sign is negative.

LABORATORY:

Urinalysis: Clear, straw-colored, alkaline, sp.gr.

1.014, albumen neg., sugar neg., microscopic—occasional epithelial cell and crystal. No pus or red blood cells, casts or bacteria.

Blood Examinations (Brem, Zeiler, Hammack and Maner) 7-24-37: "Wasserman — negative; Kahn — negative; red blood cells—5,970,000; hemoglobin—96%; color index — 0.84; leucocytes — 6800; polymorphonuclear neutrophiles—71.0%; eosinophiles—2.0%; lymphocytes—16.0%; monocytes—11.0%. On stained smear the red blood cells are normal in size, regular in shape and take the stain evenly. No nucleated red blood cells found. Platelets appear normal in number.

"Basophilic aggregation test: Thick blood films stained with Manson's methylene blue showed two basophilic cells per oil immersion field 3 plus. Results of 1 plus 2 plus will be found in 66% of normal individuals. Values of 6 plus 10 plus are much more common in lead poisoning than in other anemias."

Prostatic smears: stained with methylene blue revealed a moderate number of pus cells, few corpora amylacea, rare squamous epithelial cell, and no bacteria.

A second specimen consisting of the total urinary output for 24 hours was reported by the same laboratory as follows:

"Volume of sample (submitted July 26,
1937) - - - - - 2 liters
Lead (Pb) per 1000 ml. - - - 0.08 mg."

DISCUSSION:

Original condition: Alleged lead poisoning.

Present condition: The essential and pertinent findings at the time of my examination (7-24-37) may be summarized as follows:

Subjective complaints of recurring abdominal cramps, centering about the umbilicus and relieved only by firm pressure or by opiates; lassitude, weakness, nervousness and irritability are characteristic of and compatible with lead poisoning.

Objective findings characteristic of lead poisoning are absent: notably pallor (a sign of anemia), lead line (a deposit of lead sulphide on the gums, occurring in about two-thirds of the cases of poisoning from lead), and tremor (the earliest sign of involvement of the peripheral nervous system) are not present.

Laboratory findings are suggestive of a mild degree of lead intoxication. The presence of two red blood cells with basophilic stippling per oil immersion field (interpreted as a 3 plus finding) is slightly in excess of the 1 to 2 plus finding common to about two-thirds of normal individuals with no known history of exposure to lead. Furthermore, there is no anemia, a fact which rules out both primary and secondary anemias due to causes other than lead as a factor in producing the stippling observed. The stippling in this patient's erythrocytes, however, is not as marked as is frequently observed in lead poisoning, interpretations of 6 to 10 plus being common. Stippling may be absent in lead poisoning if the patient has been free from exposure for two or three weeks. The history indicates an absence from exposure to lead of about ten days in this case.

The reported (by Smith Emery Co.) excretion of lead in the urine in the amounts of 0.056 milligram

Yours

per liter, 7-19-37, and 0.08 milligram per liter, or 0.16 milligram in 24 hours, on 7-26-37, is evidence of lead absorption and is suggestive only of mild lead intoxication (poisoning) in this patient. Greenburg et al (U. S. Public Health Report No. 1288, July 12, 1929) regards urinary excretion above 0.05 mg. per liter as evidence of lead intake; Aug (Journal A.M.A., Jan 12, 1935) and Kehoe (ibid) found from 0.05-0.10 mg. being excreted daily by normal individuals with no known exposure to lead. McNally (Industrial Med., May, 1937) regards up to 0.07 mg. per liter of urine as normal excretion of lead; Cheney (Smith-Emery Co., personal communication) states that in his experience the average normal urinary excretion of lead is 0.03 mg. per liter, and that 0.05-0.06 mg. are doubtful.

It must be borne in mind that the amount of water intake will cause wide variations in the 'per liter' excretions of lead in the urine. Hence, daily (24 hours) outputs always should be recorded.

Conclusions: I believe this patient has sub-acute (mild) lead poisoning due to exposure to lead in his occupation as a linotype operator. His symptoms are chiefly gastro-intestinal. He already presents the reaction of stimulation of the blood forming organs as indicated by the slight polycythemia (excessive red blood cells). There is no evidence of kidney involvement or of essential hypertension (high blood pressure). Therefore, the prognosis for full recovery is good.

RECOMMENDATIONS:

1. The patient should be removed from an atmosphere of exposure to lead.
2. A regimen of treatment favoring immobiliza-



tion of lead in insoluble form in the bones should be instituted and adhered to rigidly until the symptoms have been relieved.

3. Then a process of slow 'de-leading' should be begun and continued until urinary excretion of lead has returned to normal. Frequent determinations of lead output should be made during the period of treatment.

4. Steps should be taken to control the lead hazard at the place of the patient's former employment.

Assuring you of my readiness to be of any further possible assistance, and thanking you for this reference, I am

Yours very truly,

....., M.D.

You will note that this doctor, in the foregoing report, states that blue gum line appears in about two-thirds of lead poison cases. Other evidence shows that the blue line disappears shortly after patient is removed from exposure. He also states that stippling of red blood cells disappears in about three weeks after exposure. These are two of the points doctors employ in diagnosing lead poison. Other medical references claim there may be no blood changes at all. These statements confirm the fact that these two symptoms can, therefore, be definitely eliminated as a sure way to determine whether or not the patient is suffering from lead poison. This leaves only the special (Pb.) lead poison urinalysis, which doctors or medical clinics do not make and which most doctors do not know where to get.

At this time, as stated before, the insurance company had accepted liability and started paying me compensation and medical expense, although there had been no order issued by the Commission. I was allowed to continue treatment with the doctor who had been treating me during the past several months.

Everything went along smoothly under this arrangement until November, 1937, when my heart started causing trouble. When my doctor discovered this condition, he notified the insurance company and stated that, in his opinion, the heart condition was caused by lead poison. This doctor sent me to a diagnostic clinic for examination to verify his findings. This clinic made the following report:

**MEDICAL DIAGNOSTIC ASSOCIATION
736 So. Flower St.**

**Lab. No. 14140
Date. 11/9/37**

Dr. M.D.

Mr. O. H. Mills—

An electrocardiographic tracing taken on the above patient reveals the following:

Auricular rate 97. Ventricular rate 97.

Rhythm regular. Voltage varies.

QRS excursions greatest (8 mm.) in lead 2, upright in all leads. Slurring present. Lead 4 is negative. P.R. Interval .20 seconds. T. upright in lead 1, diphasic in lead 2. S.T. interval is below the base line in lead 2 and above in lead 1.

Fluoroscopy of the heart shows the heart normal

in size and shape. There is slight dilatation and tortuosity of the aorta.

Interpretation:

The slurring and variable voltage indicates myocardial damage and these in conjunction with the depressed S.T. interval, if same is not due to one of the digitalis group of drugs, indicates the presence of coronary changes, such as sclerosis, narrowing or old thrombosis.

(Signed) M.D.

A few days later, the insurance company sent me to another well-known heart specialist for an examination. This doctor sent in the following report:

November 19, 1937

..... Insurance Co.,
Los Angeles, Calif.

Dear Sirs:

After talking to Dr. I came to the conclusion it would be necessary to do a complete examination on the above mentioned, Mr. Mills, that is: fluoroscopic examination, electrocardiographic and blood examination.

These records are very definitely suggestive of the diagnosis of angina pectoris. There is a considerable amount of hardening of the coronary arteries as seen by the electrocardiographic records.

Mr. Mills' history reveals without any doubt angina pectoris, and he is at this time unable to do any type of work. Furthermore I believe he is totally and permanently disabled.

From the blood examination, of course, there is no evidence of lead poisoning at this time. The diagnosis seems to have been established without any doubt in the past.

The problem under consideration now is the effect of chronic lead poisoning in producing angina pectoris or coronary sclerosis, or both. In my opinion this is quite probable since it is a matter of definite opinion among certain experts that the heavy metal poisonings are very definitely the causes of arteriosclerosis in general, and coronary sclerosis in particular. In my opinion this is still an unsettled problem, never having been satisfactorily proved, and this case is also subject to controversy.

Yours very truly,

(Signed) _____, M.D.

On December 6, 1937, the insurance company made application to the Commission for a hearing for adjustment of the claim, the date of hearing being set for January 6, 1938. The main object of this hearing was to eliminate the heart condition from the insurance company's liability.

I secured all the reliable medical opinions I could find supporting this theory, which are included in the next chapter. I also requested my doctor to furnish me a written opinion and he gave me the following letter:

December 21, 1937

Industrial Accident Commission,
602 State Building,
Los Angeles, California.

Gentlemen:

Re: Mr. O. H. Mills

The above patient has been suffering from lead poisoning for the past two years or more.

He has recently had attacks of Angina Pectoris and an electrocardiogram has shown evidence of coronary sclerosis.

Since lead causes sclerotic changes in blood vessels it is reasonable to suppose that lead is a factor in the changes occurring in this man's coronary vessels.

Respectfully,

(Signed)....., M.D.

After my doctor sent in the foregoing report, which was not satisfactory to the insurance company, I was transferred to another doctor, one who they could depend upon to make reports more to their liking.

On January 21, 1938, while the decision was still pending, the insurance company's doctor sent in the following report:

January 21, 1938

Gentlemen:

ORIGINAL CONDITION:

Alleged chronic lead poisoning; angina pectoris from arteriosclerotic heart disease.

The above-captioned patient reported for check-up examination on 1-12-38. He stated that he had a recurrence of abdominal cramps in the region of the umbilicus and identical with those complained of prior to my first examination of him in July, 1937. These cramps kept recurring over a period of about ten days. Last night, for the first time since their onset, he was free from them and so far today he has had none. He states that they "felt like knots in my abdomen." He relates that he received relief from lying prone on a pillow or making pressure on his abdomen with his fists. He states that he also noticed during these attacks "a thump in there like a sledge hammer when I pressed with my fists. After about ten minutes or so it would go away." He reports less shortness of breath on exercise now than at the last examination on 12-28-37. He said, however, that "my general physical condition is getting worse all the time." He displayed a copy of a letter signed by Dr. and pointed to the line reading, "totally and permanently disabled."

He has been taking tincture of belladonna with meals three times a day since the pains in his abdomen returned.

He states on questioning that, "I had those pains one and a half years before I had a hernia." He states that, although advised to do so, he has never worn his truss at night. He wears it whenever he is up, however.

DISCUSSION:

The recent recurrence of cramps in the abdomen of the type the patient reported having had intermittent-

ly since about 8-20-35, naturally brings up the question as to whether or not increased mobilization of lead in the blood stream might be the cause of the recurring pains. Assuming that the original pains in the abdomen were due to lead intoxication, such an increase in lead circulating in the blood stream might reasonably be expected. Therefore, the patient was instructed to save all urine for twenty-four hours. The total lead excretion for this period is reported as average daily urinary excretion in normal adults with no known exposure to lead.

A check on the blood findings discloses slight increase in the number of red blood cells, a condition bordering on polycythemia existing. Hemoglobin, however, is normal and essentially the same as reported in July, 1937. The amount of basophilic stippling of the red blood cells is likewise the same as then reported. One basophilic cell per oil immersion field (a rating of 3 plus) is scarcely more than is found in 66 per cent of normal individuals. There are no reported variations from normal in the morphology or staining characteristics of the red blood cells. This was the condition in July, 1937, also.

The above findings indicate that there is at this time no evidence of lead absorption in excess of the average normal or of lead intoxication. In fact, the daily excretion of lead in the urine is slightly less than average for normal adult persons without known exposure to lead. The red blood cells do not present any evidences of anemia such as might be due to chronic and repeated exposure to lead. In fact, both now and at the time of my first examination of this patient, red blood cells were present in slightly greater than

average normal number for an adult white male. Hemoglobin (coloring matter) likewise was normal on both occasions.

These findings throw some doubt on the previously assumed causal relationship between absorption of lead and the abdominal cramps of which the patient complained.

It would be interesting to observe the blood findings and also the amount of lead being excreted in the urine during any subsequent attack of abdominal cramps the patient may develop.

DISABILITY:

The patient presents at this time neither subjective symptoms nor laboratory findings in the blood or urine which can be regarded as due to lead poisoning.

He has been instructed to report at intervals of two weeks for supplementary observations.

Yours very truly,

.....M.D.

The following chemists' report was included in the foregoing doctor's report:

January 24, 1938

.....Insurance Co.,
Los Angeles, Calif.

REPORT

In accordance with your instructions we have made tests to determine the amount of lead vapor given off from the sample of linotype metal submitted to us by the Company, when heated to 550° F.

Laboratory tests show that the air immediately over the molten metal when held at 550° F. contains 0.1 milligram of lead per cubic meter of air. This is the amount of lead an operator would breath if he were breathing air directly from the surface of the molten metal. The normal breathing air in the room would contain less lead per cubic meter due to dilution of the air in immediate contact with the metal through diffusion with the rest of the air in the room.

The limit of permissible concentrations of lead in air, according to our information has never been established, but quoting from a reference entitled, "Some Methods for the Detection and Estimation of Poisonous Gases and Vapors in the Air," by A. S. Zhitkova and J. F. Ficklen, 1938, it is stated that the American National safety council established a limit at not higher than 0.6 milligram of lead per cubic meter of air. According to the same authors the amount of lead found in the air of printing plants is so small that it can only be detected by microanalysis.

The melting point of the metal subitted was found to be 454° F., and the boiling point approximately 2770° F.

As a matter of comparison, the amount of lead vapor given off from the metal at 550° F. is much less than the amount of water vapor given off from ice at 0° F. In our opinion, based on tests and experience, pure lead vapor has no odor.

Respectfully submitted,

Chemists and Engineers

On February 15, 1938, the Industrial Accident Commission ordered me to call at the office of still another heart specialist for another complete physical examination. After making this examination, the doctor sent in his report, which was very extensive and I will include only the part which states his opinions and discussion.

DISCUSSION:

We are faced here with two problems which we will take up individually.

First, "Was this man leaded and if so, is he still suffering from the poisoning."

The laboratory findings, as reported by Smith Emory Company, July 29, 1937, reveals the lead content of the urine as 0.08 milligrams per litter. The blood picture, as determined by Brem, Zeiler, Hammack and Maner, July 24, 1937, as stated in Dr.

letter of July

28, 1937, shows a red count of 5,970,000, Hemoglobin of 96%, Color Index of 0.84, Leukocyte count of 6,800, Polymorponuclears—71%, Eosinophils—2%, Lymphocytes—16%, Monocytes—11%. The basophilic aggregation test showed three plus basophilic stippling. The significant things in the count are: a lack of anemia, eleven per cent Monocytes, and a three plus Basophilic aggregation test.

The Wassermann and Kahn tests were negative.

The symptoms such as colic, loss of appetite, a general feeling of fatigue, and loss of weight, speak for lead absorption or "leading." The laboratory findings in favor of leading are the 0.08 mg. of lead

in the urine, which Kehoe and his workers place as within the upper limits of normal, but they also go on to say that occasionally the lead excreted may not exceed the normal limits. The eleven per cent Monocyte count and the increase of the Basophilic stippling speak for leading. Subsequent examinations of Mr. Mills' urine showed 0.02 mg. per liter. This is accounted for by the probable fact that the lead has been immobilized in the bone.

My opinion is therefore that the patient was leaded and did show symptoms of lead absorption. Most authorities feel that once leaded, always leaded. If lead becomes immobilized in the bone, we naturally have little excretion in the urine; and there may also be no blood changes. This immobilization in the bone is always a source of danger to the patient. Many secondary factors, such as acidosis, infections, or medication in the form of iodides or acidifying agents, may at any subsequent date mobilize this lead in the blood stream and produce toxic symptoms of lead poisoning.

The second problem is "The applicant apparently has Angina Pectoris. Is this caused or aggravated by leading?" I agree with the findings of other men that the patient has a coronary heart disease. The question of how much the lead had to do with the arteriosclerosis is a difficult one to answer. We can expect arteriosclerosis in any man or woman beyond the age of fifty. We also know that heavy metals such as lead do have a deleterious effect on the vascular system. I feel that the "leading" per se was not the primary cause in producing this man's arteriosclerosis and Angina Pectoris. However, we do know that the heavy

metals, such as lead, tend to aggravate a coronary heart disease.

CONCLUSIONS:

In answer to the two questions, the following conclusions may be drawn:

1. "Was this man leaded and if so is he still suffering from the effects of lead poisoning generally?" The patient was leaded and may at any time for various reasons mobilize that lead in the blood stream and produce all the symptoms and signs of lead poisoning.

2. "Applicant apparently has angina pectoris. Was this caused or aggravated by leading, if in fact he was leaded?"

I feel that lead did not cause the heart disease and therefore the angina pectoris; but I do feel that that condition was probably aggravated by leading.

Thanking you for the opportunity of examining this patient and hoping that my opinion may help to solve your problem, I am

Respectfully,

-----, M.D.

The above report was from a well-known doctor who was not interested in either myself or the insurance company. I was sent to him by the Industrial Accident Commission, so that they would be sure of unbiased, expert advice.

He brings out some important points as follows:

That the lead excretion may not exceed the normal

limits, owing to the fact that the lead has been immobilized in the bones.

That this immobilization in the bone is always a source of danger to the patient, and may at any subsequent date again be mobilized in the blood stream and produce the same toxic symptoms of lead poisoning.

That most authorities feel that once leaded, always leaded.

That heavy metals, such as lead, have a deleterious effect on the vascular system and tend to aggravate coronary heart disease.

On about February 23, we were notified by the Commission that if no further evidence was presented within ten days the Commission would make their award on the basis of the evidence already submitted.

On the tenth day of this ten-day period the insurance company doctor, in a final effort to defeat my case, sent in the following report, which is strongly opposite to all the other doctors' reports, and so plainly prejudiced, that, in my opinion, it did my case more good than harm.

This report follows:

March 4, 1938

.....Insurance Company,
Los Angeles, California.

Gentlemen:

ORIGINAL CONDITION:

Alleged chronic lead poisoning; angina pectoris from arteriosclerotic heart disease.

In reply to your questions in telephone conversation today on the above-captioned patient, the following comments and opinions are submitted.

It is my opinion that this patient presents no symptoms or signs of lead absorption at this time. At no time since he came under my observation in August, 1937, has he presented any evidence of anemia or any blood findings indicating more than very slight lead absorption. He has been on a "de-leading" dietary regimen including the daily administration of iodides. The last determinations of lead in the urine showed an excretion of only .02 milligram of lead in twenty-four hours. This amount is less than the average for normal adults with no known exposure to lead. Therefore, it is my opinion that this patient is not now "leaded."

There is no evidence in this case that lead has been responsible for the arteriosclerosis found on examination. The age period of the patient and the fact that his father died suddenly at seventy-two years of age of a heart ailment, point to constitutional and familial tendencies towards arteriosclerosis.

The absence of the usual signs of lead poisoning; namely, anemia, marked basophilic stippling of the red blood cells, increased numbers of reticulocytes, and abnormal amounts of lead in the urinary sediment, make it seem highly improbable that lead was an aggravating factor in his coronary artery disease.

Yours very truly,

_____ M.D.

A few days after this final report, I received a copy of the findings and award of the Industrial Commission, which not only means a great deal to me, but it also can be used as a valuable document by other craftsmen who may find themselves in a physical condition similar to mine.

This award reads as follows:

**BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA
CLAIM NO. L. A. 39-419**

.....**Insurance Company,**
Applicant,

vs.

**OLIVER H. HILLS, LOS ANGELES,
(present employer, former employer,
and two insurance companies.)**

Defendants,

FINDINGS AND AWARD

An application for adjustment of claim for compensation having been filed herein, and all parties having appeared, and the matter been regularly submitted for decision,....., Referee, makes his Findings and Award as follows:

FINDINGS OF FACT

1. Oliver H. Mills, whose date of birth was October 18, 1883, while employed as a linotype operator, at Los Angeles, California, by.....,

between the dates of August 1, 1933, and July 17, 1937, received an injury arising out of and occurring in the course of his employment through lead absorption. During his period of employment, the insurance carrier of this employer was.....

Insurance Company, and both employer and employee were subject to the provisions of the Workmen's Compensation, Insurance and Safety Laws of the State of California.

2. Oliver H. Mills has angina pectoris. This was not caused by lead absorption. The heart condition was, however, aggravated by the absorption of lead. Oliver H. Mills' condition at this time is one of total disability due to his heart condition as aggravated by the lead absorption.

3. The disability as found above has been continuously total from the date of July 17, 1937, to and including January 7, 1938, and will apparently continue for an indefinite period subsequent to January 7, 1938. For this disability Oliver H. Mills is entitled to receive the sum of \$25.00 a week from July 17, 1937, to and including January 7, 1938, and for an indefinite period thereafter, excluding the waiting period of seven days as provided by the Act. Compensation awarded herein is based on maximum earnings as provided by the Act. The carrier is entitled to credit of all sums heretofore paid as disability indemnity.

4. Oliver H. Mills' claim is not barred by the period of limitations as prescribed by the Act.

5. Oliver H. Mills was not aware that he suffered from an industrial condition until some date subsequent to July 17, 1937, and thereafter and within

thirty days notified his employer as provided by the Act.

6. Oliver H. Mills is entitled to receive such medical treatment as may be necessary to cure and relieve him from the effects of his injury, this treatment to be furnished by the carrier herein.

A W A R D

AWARD IS MADE in favor of Oliver H. Mills against..... Insurance Company of the sum of \$25.00 a week beginning July 25, 1937, and continuing to and including January 7, 1938, and thereafter until further order of the Commission terminating liability or other order herein, less all sums heretofore paid.

IT IS ORDERED that (Present Employer, Former Employer, and Two Former Insurance Carriers) be discharged from all liability herein and be dismissed herefrom.

....., Referee
INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA

After this award was made, I was so thoroughly disgusted and dissatisfied with this insurance company doctor's services and the reports he had made, that I asked the commission for a change of physicians, which was granted.

The former award was on the basis of total, temporary disability and was indefinite as to time. On May 9, 1938, insurance company asked for a new

hearing, petitioning to terminate the old award by permanent disability rating and apportionment of disability due to heart ailment. The following is a copy of this request:

BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA
CLAIM NO. L.A. 39-419

.....Insurance Company,

Applicant

vs.

OLIVER H. MILLS, injured employee,

Defendant

PETITION TO TERMINATE BY PERMANENT
DISABILITY AND APPORTIONMENT IN AC-
CORDANCE WITH LABOR CODE 4663, SECTION
3, SUB-SECTION 4.

Comes now the.....Insurance
Company and Petitions your Honorable Commission
to terminate its Award by permanent disability rating
with apportionment of disability due to aggravation
of pre-existing heart disease by alleged lead poisoning.

I.

That Mr. Mills' present condition is stationary and permanent. That the condition of his heart is due almost in whole to the gradual progress of the heart ailment, regardless of superimposed lead poisoning,

in substantiation of which we attach hereto medical report of Dr., attending physician, and Dr., M.D.

II.

That the injured party at this time is not totally disabled and from a medical standpoint is able to handle and do sedentary work.

WHEREFORE, this Defendant prays that a new Award be issued apportioning the responsibility of this Defendant in accordance with the degree of aggravation of the said pre-existing illness condition induced by the said super-imposed lead poisoning.

..... Insurance Company
BY , Adjuster.

This hearing was held on June 6, 1938, and on June 13, 1938, the Commission issued the following reply:

BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA

L. A. CLAIM NO. 39-419

..... Insurance Company,

Applicant,

vs.

OLIVER H. MILLS,

Defendant.

ORDER DENYING PETITION TO TERMINATE
LIABILITY BY PERMANENT DISABILITY RAT-
ING.

Defendants having filed a petition to terminate liability for temporary disability by permanent disability rating under Findings and Award issued herein on March 11, 1938, and all parties having appeared and the matter having been regularly submitted for decision,....., Referee, now makes her Finding and Order as follows:

FINDING OF FACT

1. Temporary disability herein has not terminated and good cause to grant the petition has not been shown.

ORDER

NOW, THEREFORE, IT IS ORDERED that defendants' petition to terminate liability for temporary disability by permanent disability rating be and it is hereby denied.

Referee

INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA

Three months later, on September 27, 1938, the insurance company again asked for a re-hearing and I received the following notice of same:

BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA

OLIVER H. MILLS,

Applicant

vs.

**..... Insurance Company,
a corporation**

Defendant

**PETITION TO TERMINATE BY PERMANENT
DISABILITY RATING OF THE EXTENT OF THE
AGGRAVATION.**

**Comes now the..... Insurance
Company and petitions your Honorable Commission
to terminate liability in the above case on the follow-
ing grounds and reasons:**

I.

**That the extent of the aggravation of the pre-
existing heart ailment by virtue of the applicant's
occupation has become fixed and permanent.**

II.

**In substantiation of this allegation we refer your
Honorable Commission to reports on record by Dr.
....., dated April 29,
1938, and Dr., dated April
13, 1938; and in addition submit herewith further re-
port by Dr., dated
September 15, 1938.**

**NOW WHEREFORE, this defendant prays that
new Award be issued incorporating a permanent dis-
ability rating based on the extent of the permanent
aggravation of the said pre-existing heart ailment as
set forth in the attached medical report.**

Dated at Los Angeles, California, this 27th day of September, 1938.

.....Insurance Company
BY....., Adjuster

The following doctor's report was attached to this request:

September 15th, 1938

.....Insurance Company
Los Angeles, California.

In re: Mr. Oliver H. Mills.

Dear Sirs:

This man continues to report to my office. He continues to have episodes of abdominal cramps and chest pain. This chest pain is felt primarily in the cardiac area of his chest and is not referred. He states that he has never tried nitroglycerin for the relief of this pain which is brought on by exertion or movement. It is felt across his chest and often relieved by lying down or by taking aspirin tablets.

On a recent visit, September 12th, 1938, he stated that for the past 10 days he has been up practically every night with pain in his chest and abdomen, and he has obtained very little sleep. During the entire month of July had no severe pain in his abdomen, but he states he became exhausted by short walks. He states he is weak. Shortness of breath has not been a manifestation of this illness, but pain manifested

by cramps in the abdomen and chest pains have been the chief manifestations. Although he has not used nitroglycerin he has used amyl nitrate perles for pain for a long period of time. He gets relief from these in 2 or 3 minutes.

The disability that now exists with this man is primarily that of a general gastro-intestinal neurosis. It is true that there is a myocarditis, which in itself aggravates the neurosis, but it is not the main manifestation in the man's disability. The thing that prevents him from returning to normalcy is that he has episodes of abdominal cramps associated with chest pain. However, this pain is not, and has not been associated in the past with manifestations of cardiac failure. A diagnosis of his heart condition would be coronary sclerosis with angina symptoms. Angina is aggravated by neurosis.

This man has become markedly introspective during his illness. He, himself, is convinced that he retains practically no lead in his system at this time but that the spasms and cramps, which he states that he has, are the result of plumbism.

This neurosis with worry and introspection should be materially relieved with the financial settlement of his case.

It is my opinion that his disability at this time is:

Myocarditis, 25%, which has been aggravated by the neurosis as result of supposed lead poisoning, 15% or a total of 40%.

Hoping this is the information you desire, I remain
Very truly yours,

....., M.D.

On October 1, 1938, I received the following notice from the Commission in regard to this request for rehearing:

**BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA**

CLAIM NO. L. A. 39-419

.....
Insurance Company

Applicant,

vs.

OLIVER H. MILLS,

Defendant.

NOTICE OF INTENTION TO TERMINATE LIABILITY AND SUBMIT FOR PERMANENT DISABILITY RATING.

NOTICE IS HEREBY GIVEN the parties hereto that on September 29, 1938, the defendant

.....
Insurance Company filed its Petition to Terminate by Permanent Disability Rating of the extent of the aggravation.

Unless good cause is shown within seven (7) days from the date hereof, an Order will be made terminating liability under Findings and Award, filed herein on March 11, 1938, and submitting the herein case for a permanent disability rating on the reports of Dr., dated September 15, 1938, and April 29, 1938, respectively, and Dr., dated April 13, 1938.

DATED at Los Angeles, California, this 30th day of September, 1938.

....., Referee
**INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA.**

The Commission, after reviewing the evidence in the files up to this time, granted this re-hearing and on November 16, 1938, issued the following new findings and award:

**BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA
CLAIM L.A. 30-419**

.....
**Insurance Company,
a corporation,**
Applicant,

vs.

OLIVER H. MILLS,

Defendant.

ORDER AMENDING FINDINGS AND AWARD.

Applicants' representave:.....

Defendant insurance carrier having petitioned to terminate liability for compensation payments and for permanent disability rating, and further proceedings having been held, and the matter being again submitted for decision,.....,
Referee, makes the following order amending Find-

ings and Award dated March 11, 1938, for permanent disability rating:

Finding 3 of said Findings and Award is amended to read as follows:

3. Said employee was at the time of said injury 53 years of age and said injury caused permanent disability consisting of episodes of abdominal cramps, associated with chest pain. The percentage of said disability is 52 1/4, entitling the employee to \$25.00 a week for 209 weeks, amounting to \$5,225.00. Said payments are based upon maximum wages.

The insurance carrier is entitled to credit of all payments made on account of disability indemnity and the jurisdiction of the Commission is retained to determine the amount of said payments.

In accordance with the foregoing findings the award is amended to read as follows:

A W A R D

AWARD IS MADE in favor of Oliver H. Mills against.....Insurance Company, defendant, of the sum of \$25.00 a week beginning July 25, 1937, and continuing for 209 weeks and until the entire sum of \$5,225.00 shall have been paid, less all sums here-to-fore paid.

IT IS FURTHER ORDERED that the employer herein be dismissed herefrom.

....., Referee

INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA

This award was supposed to be the final disposition of my case, as far as the Industrial Accident Commission was concerned, with the exception that either party has the right to appeal within twenty-one days.

A few days later, I received a notice from the insurance company to report to another doctor for a special examination. The insurance company was not satisfied with the amount of the award and was preparing for an appeal.

This doctor's examination took about fifteen minutes and consisted of examining my heart with a stethoscope, removing some blood from my ear for a blood test, and a urinalysis, but, nevertheless, he sent in a very elaborate written report about things which he had not even examined me for.

With this report, the insurance company asked for a rehearing on the grounds of new evidence.

The following is the request for a rehearing and the accompanying doctor's report:

**BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA
CLAIM NO. LA 30-419**

OLIVER H. MILLS,

Applicant,

vs.

**.....Insurance Company,
a corporation,**

Defendant.

**PETITION FOR REHEARING AND PETITION
TO TERMINATE.**

Comes now the Insurance Company and Petitions your Honorable Commission for rehearing and to terminate its liability in the above captioned on the following grounds and reasons:

I.

That this Defendant has discovered new evidence not obtainable on the occasion of the last hearing.

II.

That the findings of fact do not substantiate the Award.

In support of the above allegations this Defendant submits herewith detailed medical report dated December 2, 1938, by Dr..... From the information therein contained it is apparent there exists in the applicant no symptoms of lead poisoning. Further that his present heart ailment has not been either caused or aggravated by alleged lead poisoning or by any duties connected with his occupation. The new evidence referred to we feel is amply substantiated by the attached report of a very thorough physical and laboratory examination of the applicant, coupled with not only authoritative text book references on the subject, but authoritative clinical research reports from various parts of the country dealing directly with the effect of lead on heart conditions.

WHEREFORE, this Defendant prays that re-hearing be granted and a new Award issued in favor of this Defendant, terminating all liability on the grounds

that the applicant's present heart condition was not in any way caused or aggravated by his occupation as a linotype operator, and the further fact that there existed at no time any evidence of lead poisoning.

Dated at Los Angeles, California, this 7th day of December, 1938.

..... Insurance Company.

....., Adjuster.

Following is the report of this doctor which, in my opinion, proves the statement that "money talks" and this shows conclusively what an individual is up against when fighting a large insurance company:

November 28, 1938

..... Insurance Company,

Los Angeles, California.

Re: Case No. 9711.

Oliver H. Mills, Injured.

Gentlemen:

As per your request I examined the above at the Hospital on 11-28-38. He gave his age as 55, married, and resides at 3927 $\frac{3}{4}$ Melrose Ave., Los Angeles.

Mr. Mills stated that he had been employed as a linotype operator for the above employer and that late in the year 1935 he began to notice symptoms which

he described as irregular, spasmoidic epigastric or precordial pains. He further stated he had been examined and treated by several physicians, but that no definite diagnosis was made until 1937. I gleaned from the records that on or about May, 1937, an examination of his urine showed 0.08 m.g. of lead per liter of urine and that because of this finding, together with the epigastric or precordial pains, a diagnosis of "lead poisoning" was made.

I understand that the issues now involved in this case are as follows:

1. Is Mr. Mills now suffering from lead poisoning?
2. Has Mr. Mills suffered from lead poisoning at any time in the past three years?
3. If Mr. Mills has suffered from lead poisoning, what was the source of said poisoning?
4. Has lead poisoning caused any exacerbation of a pre-existing disease in Mr. Mills' case which has resulted in any permanent disability?
5. Is Mr. Mills now suffering with any permanent disability resulting from any cause, the origin of which is in any way associated with his past employment?

My examination elicited the following facts:

GENERAL APPEARANCE: Fairly tall male, about 55 years of age. He would perhaps be called slender, but did not exhibit an appearance of being in ill health. He seemed to have more than the average degree of intelligence and cooperated well.

FAMILY HISTORY: His father died at the age of 72 of cardiovascular disease. His mother died at the age of 64 of renovascular disease. These are pertinent

facts which must be given due consideration because all authorities agree that heredity plays an important role in these types of cases.

PHYSICAL EXAMINATION: The patient is a slender male. The eyes react to light and accommodation. The pupils are normal in size and centrally situated. Eye grounds negative. The oral hygiene appears to be normal (no blue gums). The lips show no cyanosis or evidence of anemia.

LUNGS: Expansion equal bilaterally. Breath sounds normal. No evidence of rales or friction rubs.

HEART: Apparently normal in size, shape and position. No murmurs were heard, and likewise no pericardial rubs. Rate 74. Blood pressure 140/80. Examination of the peripheral vessels showed slight arterio-sclerosis. The vessels were not tortuous.

ABDOMEN: Soft and no tumors or masses noted. The liver, spleen and kidneys could not be felt.

NEUROLOGICAL EXAMINATION: All the known tests were normal. There is no evidence of wrist drop. Examination of the extremities failed to reveal any edema.

LABORATORY EXAMINATION: The urinalysis revealed the voided specimen to be amber color and clear. Specific gravity 1.020. Reaction alkaline. No sugar. Albumin positive with granular casts present, and a fair number (5-6) of pus cells. No acetone or indican. Lead excretion 0.03 m.g. per liter.

BLOOD COUNT: Hemoglobin 80%. Erythrocytes 4,720,000. Color index 0.85. Leucocytes 6,200. Poly-nuclear neutrophiles 66%. Lymphocytes 27%. Transi-tionals 2%. Eosinophiles 4%.

Thick drop method shows 1 basophile stippling cell in every other oil field. (Normal 2-4 cells per field).

DIAGNOSIS: From the history of this case, together with the physical findings, the following diagnosis is self-evident—renovascular disease, as shown by the presence of albumin and casts in the urine, complicated with myocarditis (as shown by electro-cardiogram by Dr.) and further complicated by a degree of coronary sclerosis.

DISCUSSION: The term “lead poisoning” is misleading and no longer used by toxicologists without definite qualifications because lead in some proportion is a normal ingredient in all human tissue and is normally excreted through the urine in some proportion. The following is a discussion of the respective issues categorically.

1. Is Mr. Mills now suffering from lead poisoning?

Dr. Belnap and many other authorities emphasize the fact that before a diagnosis of “lead poisoning” can be made, an excessive amount of lead must be found in the patient’s system or in the urine, together with demonstrable evidence of one or more of the pathogenic symptoms of lead poisoning. From my findings in Mr. Mills’ case, I can positively state that in my opinion Mr. Mills now shows no evidence of lead poisoning for the following reasons:

(a) No excessive lead is now found in the urine.

The lead found in his urine at the present time is 0.03 m.g. per liter (all authorities, including Clark and Dinker, agree that normal urine contains from 0.01 to 0.21 m.g. per liter).

(b) There are absolutely no pathognomonic clini-

cal symptoms demonstrable, no blue line or cyanotic gums or lips, no anemia, no characteristic colic pains. The epigastric pains complained of square with those usually associated with myocarditis and coronary sclerosis.

2. Has Mr. Mills suffered from lead poisoning in the past three years?

In answer to this question, I must base my conclusions upon the evidence presented in the file of this case. Assuming that the file, which is at my disposal, contained all the facts, I can positively state that in my opinion Mr. Mills has not suffered from lead poisoning at any time in the past three years. My reasons are as follows:

(a) At no time has there been in excess of 0.08 m.g. of lead in the urine (normal 0.01 to 0.21 m.g. per liter, as above referred to).

(b) Blood examination at no time in the past three years demonstrated any evidence of anemia or abnormal stippling of the basophilic cells present—findings one cell per field (normal 2-4 cells per field).

(c) There is no evidence in the file which would even suggest the presence of typical clinical pathognomonic symptoms of lead poisoning—no typical colicky intestinal pains, no cyanosis of the lips or gums. There is evidence in the file, however, showing that Mr. Mills had symptoms which do square with renovascular disease, myocarditis and coronary sclerosis.

(d) If Mr. Mills has suffered from lead poisoning in the past three years, I can state that I was unable to find any evidence or proof of such affliction in the

medical file heretofore submitted. I can, however, positively state that if Mr. Mills has suffered from lead poisoning in the past three years he has completely recovered from said affliction with no evidence of a permanent disability which in any way could be associated with lead poisoning.

3. If Mr. Mills has suffered from lead poisoning within the past three years, what was the source of the said lead poisoning?

In answer to this question I am not able to offer a suggestion because there is nothing in the file which even as much as intimates a probable source of lead poisoning other than reference to the fact that his occupation was that of a linotypist.

4. Has lead poisoning caused an exacerbation of a pre-existing vascular disease in Mr. Mills' case which has resulted in any permanent disability?

(a) Meyers (New York State Bulletin) examined 381 cases of lead workers for the New York State Department of Labor and reported no evidence was found indicating that lead played any important role in the human vascular changes.

(b) The Metropolitan Life Insurance Company made a vast study of arteriosclerosis and points out in the report of its survey that lead offers no particular significance in the development of or progress in arteriosclerosis.

5. Is Mr. Mills now suffering with any permanent disability resulting from any cause, the origin of which is in any way associated with his past employment?

(a) From the evidence at hand I can say positively that it is my opinion he is not.

(b) It is my opinion that Mr. Mills is now affected with a renal vascular and cardiovascular disease which in no way was caused by or exacerbated by this employment.

In conclusion it has been pointed out in the foregoing paragraphs that

1. There is no evidence of Mr. Mills being afflicted with lead poisoning at the present time.
2. If he has suffered from lead poisoning in the past three years, there is no traceable source of said lead poisoning.
3. If he did suffer from lead poisoning, he has completely recovered therefrom, with no evidence of a permanent disability associated therewith.
4. The facts point conclusively to a present diagnosis of renovascular disease complicated with a myocarditis and coronary sclerosis, neither of which can in any way directly or indirectly be associated with his occupation as a causative or exacerbating factor.
5. Mr. Mills' condition as evidenced by his physical examination does not indicate that he cannot carry on reasonable activity at this time.

Yours very truly,

....., M.D. & ASSOC. STAFF.

..... HOSPITAL.

....., M.D.

The foregoing examination was made in a dingy old building used as an industrial hospital, located in the manufacturing and wholesale district of Los Angeles, and, I am told, handles Insurance Company cases almost exclusively. Most of the cases seem to be Negroes and Mexicans, and I would not give much for their chances of collecting the compensation which is rightfully due them, after this outfit gets through with them.

The "doctor" who examined me spent about fifteen minutes in his so-called "thorough physical and clinical examination," and the elaborate report which he submitted leads me to believe that he is an expert in dictating a report of this kind which might be satisfactory to the boss.

I was told by a member of the Accident Commission that this report was not even taken into consideration in making their final award in my case. However, the Commission granted them a rehearing and I received the following notice of an order granting the rehearing:

December 28, 1938

**BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA**

CLAIM NO. LA 39-419

**..... INSURANCE COMPANY,
a corporation,**

Applicant

vs.

OLIVER H. MILLS,

Defendant.

**ORDER GRANTING APPLICANT'S PETITION
FOR REHEARING AND PETITION TO TERMINATE.**

The herein record having been reviewed, and good cause for rehearing having been shown by the Petition for Rehearing and Petition to Terminate filed herein by applicant carrier on December 7, 1938,

IT IS ORDERED that the said Petition be and the same is hereby granted.

IT IS FURTHER ORDERED that the herein case be set for further hearing upon notice to all parties.

**INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA.**

-----, Commissioner.

-----, Deputy Commissioner.

Dated at Los Angeles, California,

December 28, 1938.

This hearing was held on January 9, 1939, and on February 25, 1939, I received copy of the award. This award is final and neither party has any further recourse, except that any time within twenty-eight days after date issued, either party could have appealed to the Appellate Court on legal points only.

And, so ends nearly two years' fight between an individual and a large insurance company.

Following is a copy of this final award:

BEFORE THE INDUSTRIAL ACCIDENT
COMMISSION OF THE STATE OF CALIFORNIA

CLAIM NO. LA 39-419

..... INSURANCE COMPANY,
a corporation,

Applicant,

vs.

OLIVER H. MILLS,

Defendant.

DECISION ON HEARING.

A rehearing having been granted herein, and all parties having appeared, and the matter having been regularly submitted for decision,

GOOD CAUSE APPEARING THEREFORE,
IT IS HEREBY ORDERED that Findings and Award, filed herein November 16, 1938, be and they hereby are rescinded and annulled, and the following substituted therefore:

FINDINGS OF FACT

1. Oliver H. Mills, born October 18, 1883, while employed between the dates of August 1, 1933, July 17, 1937, as a linotype operator, at Los Angeles, California, by....., sustained an injury arising out of and occurring in the course of his employment. During this period of employment, the insurance carrier of this employer was..... Insurance Company, a corporation; and both employer and employee were subject to the provisions of the Labor Code.

2. Said injury caused permanent disability consisting of episodes of abdominal cramps, associated with chest pain, which for employee's age and occupation constitutes a permanent disability of 52 $\frac{1}{4}$ %.

3. At the time of injury herein said employee was suffering from a pre-existing heart condition, and this Commission now finds that a proper apportionment between said pre-existing condition and injury is to charge 34 $\frac{3}{4}$ % of the permanent disability to injury herein and 17 $\frac{1}{2}$ % of said permanent disability to said pre-existing condition.

4. As a result of the foregoing apportionment said employee is entitled to \$25.00 a week for 139 weeks, in the total sum of \$3,475.00, based upon maximum earnings.

5. The insurance carrier is entitled to a credit of all sums paid on account of disability indemnity herein.

AWARD

AWARD IS MADE in favor of Oliver H. Mills against..... Insurance Company, a corporation, in the sum of \$3,475.00, payable \$25.00 a week beginning July 25, 1937, and continuing weekly thereafter until the whole of said sum shall have been paid, less all sums heretofore paid.

The employer is hereby released and discharged from liability herein, and dismissed herefrom.

....., Referee.

INDUSTRIAL ACCIDENT COMMISSION
OF THE STATE OF CALIFORNIA

MEDICAL REFERENCES

On the following pages you will find opinions of well-known and reliable medical authorities on the subject of lead poisoning and references showing the connection of lead poisoning and several other diseases, including Arteriosclerosis, Multiple Neuritis, Intestinal Nephritis, and Meningo-Encephalitis.

The following medical references were used in the hearings in establishing the connection between lead poisoning and coronary sclerosis (hardening of the arteries).

SYNOPSIS OF MEDICINE, Tidy; Fifth Edition, 1930; Page 311:

LEAD POISON

Lead poison may be acute or chronic, usually the latter. It arises from many causes, the most important being: (1) Industrial; (2) Accidental; (3) Medicinal; (4) Adulterations.

INDUSTRIAL.—Lead miners, in carbonate mines only (Broken Hill); rare in metallic lead mines. Smelters, workers in white-lead factories, painters, plumbers, enamel-plate makers, glaziers and potters, file makers.

ACCIDENTAL.—Water, if slightly acid, dissolves

lead rapidly, especially from new pipes. Old lead surfaces often have covering of lead carbonate; partially protective, but soluble in hot water. Water from peaty soil dangerous from presence of humic acid, which dissolves lead.

Cider and beer, in contact with lead. The first morning's drink from a bar may contain lead; drunk daily by barman can produce poisoning.

MEDICINAL.—Rare, except diachylon taken as abortifacient.

ADULTERATIONS.—Lead chromate has been used as coloring in baking powder.

DOSE.—Doubtful. Broudardel states that one milligramme (1/70 gr.) daily produces plumbism.

PATH OF ENTRY.—(1) Intestinal tract, from lead on hands or swallowed with saliva, etc.; (2) Respiratory tract, inhaled as dust; (3) Skin, practical importance slight.

PATHS OF EXCRETION.—Urine and faeces. Recognition simple by electrolytic method.

ETIOLOGY.—Age; liability is greater in youth. Sex; females are especially susceptible. Idiosyncrasy is marked (Oliver). Excess of alcohol predisposes.

MORBID ANATOMY.—Acute form. Changes as in gastro-enteritis.

Chronic form.—Chronic catarrh of stomach and intestines. Caecum and ascending colon may be dusky from lead deposited in mucous membrane (well seen in microscopic sections). Liver contains most lead. If paralysis, peripheral nerves show degeneration. Intestinal nephritis common.

Cerebral forms.—Oedema of brain and minute haemorrhages.

ACUTE LEAD POISONING

Rare: Practically confined to large doses of lead acetate ("sugar of lead"). Vomiting and abdominal pain and symptoms of gastro-intestinal irritation. May be fatal.

CHRONIC LEAD POISONING

Effects of chronic lead poisoning are: (a) Certain general symptoms. (b) Three classical clinical types, occurring, in order of frequency, as; (1) Colic; (2) Paralysis; (3) Encephalopathy. (c) Certain remote effects.

A. GENERAL SYMPTOMS.—Anaemia and Pallor.

Constipation.—General lassitude; nausea and disturbed digestion; headache.

Blue Line on Gums.—Near but not at margin of gums. Usually lower jaw. Due to H_2S from tartar forming insoluble black sulphide; hence commoner with carious teeth, and may be absent with good teeth. In deep layers of mucous membrane and not removable by brushing; in papillae, hence line discontinues under lens. May appear within a week of exposure. An external removable deposit may be present at margin. Duration at least three weeks after cessation of exposure.

BLOOD CHANGES.—“Saturine cachexia,” Haemoglobin and red cells diminished, 2,000,000 to 3,000,000 per c. mm. Basophilic degeneration, stippling of red cells, common and often marked, but not proof of lead poisoning. Normoblasts relatively numerous. Leucocytes, little change.

ABORTION.—Very common; Menstruation irregular.

B. CLASSICAL CLINICAL TYPES.—Usually preceded by general symptoms.

1. COLIC (Lead or Painters' Colic).—The most common type. Pain paroxysmal, eased by pressure; abdomen firm and retracted. General distribution usual. Pyrexia rare. Pulse slow, often high tension and small. Constipation usually obstinate. Urine reduced. Duration three to ten days; recurs with further lead. Never fatal. Diagnosis from appendicitis by apyrexia and slow pulse. Abdominal muscles may be tender between spasms.

REMOTE EFFECTS.—Arteriosclerosis and ancillary conditions. e.g., chronic nephritis and myocarditis, are common to those long exposed to effects of lead.

GOUT.—Association formerly over-emphasized.

DIAGNOSIS OF CHRONIC POISONING.—Principal characteristics; (1) Anaemia and cachexia; (2) Constipation; (3) Blue line; (4) Colic; (5) Wrist-drop (brachio-radialis escapes); Lead present in urine and faeces (by electrolysis, etc.).

TREATMENT.—Remove from exposure to lead. Treat general health.

Colic and Constipation.—Relieve pain with warmth or hot bath, etc.

PROPHYLAXIS.—Factories: Many laws in force for ventilation, cleansing, preventing dust, etc. Workmen: Cleanliness; wash hands before meals; weekly bath. Meal before work (protein hinders absorption of lead). Milk to drink. Sulphuric acid lemonade.

Kidney Disease

This same authority, page 601, in naming the contributory causes of "Chronic Interstitial Nephritis" (kidney disease), states as follows:

Excesses; over-work, over-eating, alcohol; syphilis, lead and gout.

Multiple Neuritis

Again on page 802, this writer, under the heading of "Multiple Neuritis," says:

ETIOLOGY.—Toxic. Alcohol, lead, arsenic, and mercury. Rarely from other metals and organic substances.

"PRACTICE OF MEDICINE"

In "Practice of Medicine," by Osler, the author has the following to say about Lead Poisoning (Plumbism).

On page 1063, under the heading "Lead Poison," he states:

The disease is wide-spread, particularly among lead workers and among plumbers, painters, and glaziers.

Accidental contamination may come in many ways; most commonly by drinking water which has passed through lead pipes or been stored in lead-lined cisterns.

The largest number of cases occur between the ages thirty and forty.

The lead gains entrance to the system through the

lungs, the digestive organs, or the skin. Through the lungs it is freely absorbed. The chief channel is the digestive system. It is rapidly eliminated by the kidneys and skin, and is present in the urine of lead workers. The susceptibility is remarkably varied. The symptoms may be manifest with a month of exposure. On the other hand, Tanquerel (des Planches) met with a case in a man who had been a lead-worker for fifty-two years.

MORBID ANATOMY.—Small quantities of lead occur in the body in health. J. J. Putnam's reports show that of 150 persons not presenting symptoms of lead poisoning, traces of lead occurred in the urine of 25 per cent.

In chronic poisoning lead is found in the various organs. The affected muscles are yellow, fatty, and fibroid. The nerves present the features of a peripheral degenerative neuritis.

CLINICAL.—Chronic poisoning presents the following symptoms:

(a) **ANAEMIA**, the so-called saturnine cachexia, which may be profound. As a rule, however, the corpuscles do not sink below 50 per cent.

(b) **BLUE LINES** on gums, which is a valuable indication but not invariably present.

The line may form rapidly after exposure and disappear in a few weeks, or may persist for many months.

The most important symptoms of chronic lead poisoning are colic, lead-palsy, and the encephalopathy.

(c) **Colic** is the most common symptoms of chronic

lead poisoning. It is often preceded by gastric or intestinal symptoms, particularly constipation. The pain is over the whole abdomen. The colic is usually paroxysmal, like true colic, and is relieved by pressure. There is often, in addition, between the paroxysms a dull heavy pain. There may be vomiting. During the attack, as Riegel noted, the pulse is increased in tension, and the heart's action is retarded. The pupils are usually unequal (Oliver).

(f) Arteriosclerosis.—Lead workers are notoriously subject to arteriosclerosis with contracted kidneys and hypertrophy of the heart . . .

TREATMENT.—Prophylactic measures should be taken at all lead works, but unless employees are careful poisoning is apt to occur even under the most favorable conditions. Cleanliness of the hands and of the finger-nails, frequent bathing, and the use of respirators when necessary, should be insisted upon. When the lead is in the system, the iodide of potassium should be given in from five to ten-grain doses three times a day. For the colic, local applications and, if severe, morphine may be used. For the anaemia, iron should be used. An occasional morning purge of sulphate of magnesia may be given. In the very acute cases it is well not to give the iodide, as, according to some writers, the liberation of the lead which has been deposited in the tissues may increase the severity of the symptoms. For the lead palsies massage and the constant current should be used.

Meningo-Encephalitis

In the same book, by Osler, on page 966, under the

heading of "Chronic Meningo-Encephalitis," he states:

There are certain forms of lead encephalopathy which resembles general paresis, and, considering the associating of plumbism (lead poisoning) with arteriosclerosis, it is not unlikely that the anatomical substratum of the disease may result from this poison.

Kidney Trouble

Again, under "Chronic Interstitial Nephritis," page 791, Osler states:

. . . Lead, as is well known, may produce renal sclerosis, but it is a minor factor in comparison with other causes.

Hardening of the Arteries

On page 700, writing of Arteriosclerosis, Osler states:

(2) **Chronic Intoxications.**—Alcohol, lead, gout, and syphilis play an important role in the causation of arteriosclerosis, although the precise mode of their action is not yet very clear.

"INDUSTRIAL HYGIENE AND MEDICINE"

Dr. E. W. Hope, in his book on "Industrial Hygiene and Medicine," has the following to say under the heading, "Industrial Poisonings and Their Effects":

LEAD

Channels of entry into the body and symptoms of lead poisoning.—(1) By absorption through the mucous membrane of the alimentary tract. In the stomach the hydrochloric acid which is readily absorbed; the lead which is undissolved passes through the intestine in the form of insoluble lead sulphide.

(2) By the inhalation into the lungs of fumes and dust of lead during the various processes; most metal, however, collects in the nasopharynx and is swallowed. It has been shown by Lehmann that when lead dust is inhaled, only 12 per cent reaches the lungs, and that 70 per cent is found in the alimentary canal. Goadby considers that breathing lead into the lungs is the chief source of lead poisoning.

(3) By absorption through the skin; this is also stated to occur, but if absorption by the skin occurs at all, it is of very rare occurrence.

The method by which the metal enters the system can be more fully illustrated when the various processes are considered.

Lead is the most subtle of all metallic poisons, its salts are very soluble, have no unpleasant taste or smell, and produce their effects in such an insidious manner that the health of the worker is often completely undermined before the illness is suddenly precipitated.

It is important that factory surgeons who have the

oversight of the health of the workers, should be able to detect early signs of lead poisoning amongst those engaged in these dangerous occupations. Amongst the earliest signs are an increasing pallor of the face, lips, and the conjunctiva of upper and lower eyelids. The patient often complains of a metallic taste in the mouth, and abdominal colic is often of great intensity associated with vomiting and chronic constipation. Lead has a predilection for the nervous system, and paralysis of the hands from the wrist downwards, due to an affection of the extensor muscles of the wrist, and interossei of the fingers is often recorded. The weakness may also affect the shoulders or arms, even ankle-drop may be manifest. There may be pains in the joints, probably due to localized patches of neuritis. The worker's appetite fails, and he frequently goes to work without food, and Oliver has shown that there is no greater predisposing cause of absorption of lead into the system than by working in lead compound factories without proper meals.

On examining the mouth a blue line is discovered along the margin of the gums close to the teeth, indicating that lead is present in the system. This line is due to a deposit of sulphide of lead in the tissues of the gum; it is not in itself conclusive evidence that the person is under the influence of the metal, but accompanying or succeeding symptoms may reveal its diagnostic value. . . .

. . . The poison is due to the constant and repeated entry of minute quantities of lead salts into the system. It is not possible to say what quantity is sufficient to cause toxic symptoms, because it varies with individual idiosyncracies. . . .

Lead is eliminated by the kidneys and intestines. A lead worker who is absorbing the metal remains free from symptoms as long as the daily elimination of lead from his body is equal to, or slightly in excess of, the intake. It is a well-known fact that alcoholism predisposes to plumbism; the combined effect of the alcohol and the lead, both poisons affecting the kidneys, quickly leads to defective elimination of the metal, and consequent lead poisoning. Goadby considers that where tolerance is established any absorbed lead is discharged through the intestines, and not, as has been stated, through the kidneys.

... Dr. T. M. Legge has compared the results obtained with other estimations made by Dr. Duckering, and concludes "that if the amount of lead present in the air breathed contains less than five milligrammes per ten cubic metres of air, cases of encephalopathy and paralysis would never, and cases of colic very rarely, occur." He considers about two milligrammes of lead "as the lowest daily dose which inhaled as fumes or dust in the air in the course of years will set up chronic plumbism."

Under the sub-heading entitled, "Processes Involving Exposure to Lead Poisoning," Dr. Hope states:

(5) Painters and Color Grinders.—These workers are constantly exposed to the risk of lead poisoning, as their hands, clothes, etc., become soiled with the materials used, and also in other ways, for example, by inhaling the vapor when burning off old paint or when dust is evolved in sandpapering to smooth the painted surfaces, or in mixing the dusty lead pigments such as white and red lead and chrome yellow.

(6) Plumbing, etc.—The occupation of plumbing renders exposure unavoidable in handling, cutting, and fitting lead pipes, taps, etc., in various forms.

(6) Type-founding and Setting.—The metal used for type is an alloy of lead and antimony, and the danger of lead poisoning from the lead dust of the type boxes and from the habit of holding type in the mouth or through eating food with unwashed hands, is not inconsiderable. . . . The danger may be minimized by not putting the lead type in the mouth, and by using wet processes in place of dry dusting.

Printers' colic is seldom met with in these days. The use of linotype and monotype machines in printing establishments has superseded the old and dangerous methods of founding and setting of lead type. The work is now done automatically and the danger from dust, handling of type, and fume inhalation has been reduced. The metal pots attached to the machines are now so placed and the fumes suitably extracted by means of a hood and exhaust shaft that any danger is eliminated. . . .

This writer, in the above paragraph, is referring to England—not the United States. If linotypes in England produce poisonous fumes to the extent of creating a health hazard requiring the installation of hoods over the pots connected with vent pipes and exhaust fans, why does not the same reasoning apply in the United States? All the information I have been able to obtain seems to indicate that the United States is about fifty years behind England and other countries in the various methods used for the protection of their workers.

HEALTH MAINTENANCE IN INDUSTRY

In the book "Health Maintenance in Industry," by J. D. Hackett, Consultant on Labor Relations, on page 151, this writer states:

Plumbism (lead poison), which is easily the most prevalent of plant poisons, is the cause of less than one death per thousand. There are, in fact, 200 deaths from the respiratory diseases for every one from lead poisoning. Moreover, all other occupational and chronic poisonings combined are less than half those due to lead. These are general averages not necessarily true as to the individual plant. It is for the plant physician to ascertain the existence of occupational hazards, and if found they become of vital importance. . . .

Lead is apparently the preponderating cause of occupational sickness and death, constituting 88.2% of all cases and 86.0% of all deaths reported. . . .

. . . The following is a list of poisons, processes, and symptoms, issued by the Department of Health, New York City:

Lead Poisoning.—Mining and smelting of lead ores, manufacturing of metallic lead articles, lead alloys, foundry shops, tin shops, bottle cap factories, sanitary ware factories, composing rooms, file cutting works, lead colors and other lead compounds, storage batteries; babbiting, soldering, lead burning, tempering, painting and varnishing, putty polishing; in the mixing of the materials of the pottery, rubber and mirror backing.

Symptoms: Anaemia, general lassitude, loss of appetite, nausea, constipation or constipation alternating with diarrhoea, colic, blue line on gums, wrist drop, ankle drop, defective vision.

Lead Poisoning

On page 163 of this same book, the author states:

Lead Poisoning: Of the hundreds of materials causing industrial disease, lead is the most destructive. It is not as virulent as other poisons but, on account of its wide use, it causes more lost time and death than all other occupational poisons together. Either as a metal, a salt of the metal, a paint, a solder, occurring as a droplet, dust, or fume it does its deadly work but usually in a slow, insidious way. Liability to plumbism exists wherever lead is mined, smelted, wrought, handled, or used, either as a raw material, alloy, compound, or ingredient.

The metal, itself, is comparatively harmless, the dust is virulent according to fineness, and the fume is perhaps, more deadly than any. . . . It is easily the most frequently used industrial poison, and is to be found in over a hundred different trades. . . .

Certain occupations, such as interior decoration and painting, show a high incidence of poisoning. For instance, in an investigation made by the New York City Department of Health it was found that, of 402 interior decorators and painters, 163, or 40%, showed active lead poisoning.

Lead is, generally speaking, a cumulative poison; the little particles floating in the air become absorbed and stored up in the system until there is sufficient to cause symptoms of poison.

Adding to the difficulties of diagnosis is the variability or reaction on different workers, possibly since the rate of elimination varies with the form in which the poison is absorbed and with the absence or presence of acidosis. . . . This accounts for the fact that

some workers have been exposed for years without visible effect while others develop symptoms within a week of starting work.

The doctor in charge of a labor force exposed to lead should be able to detect signs of poison at the earliest possible time. There are many symptoms of poison which vary in extent and time of occurrence and only become palpable after the damage has been done. The occasion demands the early detection of the disease by some easily discerned or readily ascertained symptom. The four cardinal symptoms for early diagnosis are said to be found in the complexion, the gums, the blood, and the urine. Pallor, discoloration of the skin, and blue gum are easily detected, but, as Dr. W. W. Rand says, "It is a mistake to wait for such signs; it is too late." . . . Basophelic granulation is only discovered in about 50 per cent of all cases."

This writer quotes from instructions issued by the Ohio State Board of Health, as follows:

Note: Lead poisoning brings on paralysis, hardens the arteries, causes chronic diseases, and hastens old age and death. . . .

Speaking of prevention, the author, on page 172 has the following to say:

Exhaust ventilation, when possible, should be installed at the point of origin. Locally applied exhaust ventilation is the sheet anchor in the protection of the workers. In England, where this plan has been adopted, cases of plumbism have been reduced from 1,058 to 230 in twenty years."

And, to finish his discourse on lead poisoning, he makes this statement: "The United States leads the world—but not in the prevention of lead poisoning."

COMPENSATION INSURANCE

The title "Workmen's Compensation Insurance" is, in a direct sense, a mis-nomer and misleading, as the workman is really only partially compensated for loss of time and medical expense incurred by his injury or sickness. In fact, it would be impossible to compute or to reimburse the workman in full for severe injury or the total loss of health, never to be regained. The law was not enacted with the idea of attempting to place a value on extreme cases and reimburse the patient in full for a loss of this nature, but has fixed a more or less definite amount of weekly compensation or, in some cases, a lump sum which the victim or his dependents shall receive under certain conditions.

The law has also been of great value to workmen in the fact that it enforces safety regulations to prevent accidents, which possibly never would have been in general use had not this law made it compulsory. And, of course, the extent to which the employer goes in installing safety measures, even to going beyond what the law requires, no doubt, is taken into consideration by the insurance companies in computing the amount of the premium on the insurance covering the employees of any business.

Long before Employees' Compensation was ever thought of, most employers carried insurance on their mechanical or material equipment, but had never considered the workman as being a part of their stock

in trade and therefore, did not consider him as either a liability or as an asset, but merely as an item which could be replaced without any additional cost to the employer and was not considered valuable enough to warrant insurance coverage.

Now that the various state laws are in force and the workman is partially compensated for injury, this added expense to the employer has been made a part of the operating expense and added to the cost of production and is passed on to the consumer. The employee receiving compensation from this source, which he has had no direct part in paying for, does not need to feel that he is accepting charity or that it is the result of any benevolent inclination on the part of his employer. This protection is in no way the result of humanitarian instincts or ideas on the part of the employer, but is the result of compulsory insurance, paid for by the consuming public of which you are a part.

One of the more important features of the Workmen's Compensation Insurance Law is that the benefits are obtained without any legal or other expense to the injured workman or his dependents, as the case may be, and there are no long delays as is the case when the employee has to resort to the courts for settlement. The claimant starts receiving compensation, and the required medical attention immediately on reporting the injury and the verification by the insurance carrier, at the time when the injured party needs this help most. He is entitled to and receives medical care and hospitalization, if necessary, which he possibly could not have afforded without the insurance.

Agitation for Workmen's Compensation Insurance in this country started about 1908 and in 1911 seven states adopted the law, and the movement spread rapidly thereafter until today every state in the union has compensation in some form. In most states the law is compulsory. That is, the employer must either carry compensation or show proof and evidence that he is able financially and that his business is sufficiently sound to carry his own liability. In these cases the compensation must at least equal the amount which the claimant would have been entitled under the law.

In some states the employee has no other choice than to accept the amount of compensation prescribed in the law, while in other states the injured party may either accept the amount to which he is entitled under the law, or, he may relinquish all claims and the protection under the jurisdiction of the compensation insurance law and resort to the courts in an attempt to recover damages to his liking. In this case, he must employ his own legal service and possibly the case will be delayed and postponed for a number of years, and in the end may not get anything. In my opinion, the safer and more sensible course is to accept the benefits and provisions of the compensation law. Of course, there may be exceptional cases which would warrant the other procedure.

I have stated that benefits start immediately upon proof of injury. This is true only in reference to medical service and, hospitalization, when necessary. There is a "waiting period" of one week and, benefits in the way of compensation for loss of time start on the eighth day.

Another valuable feature of this law is that it averts any friction between the employee and employer in the settlement of compensation or damages. After the employer reports the case to his insurance carrier he has washed his hands in the case, and the whole affair reverts to the insurance carrier as defendant. Therefore, when the case is settled and the employee desires to return to his place of employment, there has been nothing transpired which might cause ill feeling or prejudice on the part of the employer, and his job is more secure.

This type of insurance, in my opinion, is just as essential and important to the employer as to the employee in that it protects him against expensive law suits and possible judgments, and he knows definitely, in advance, just what the following year's expense will be, in regard to employee liability, and as stated before, the expense is included in his production costs and therefore does not cost him anything. This is particularly true in case of the smaller employer with limited capital, in which case one law suit and the possible resultant judgment might be enough to force him into bankruptcy.

The injured party, under this insurance, cannot collect anything for the suffering caused by the injury. The insurance is not for this purpose. There is no way of accurately judging or placing a value on this angle of the case. It is solely for the purpose, as far as the injured party is concerned, to compensate him for medical expense and a stated percentage of his weekly earnings.

Compensation payments cannot be assigned in advance of payment, nor shall they be subject to lien or

claim by creditors except in a few specific cases, and then only with consent of the insurance commissioner.

The amount of weekly compensation is usually determined on the basis of a percentage of the weekly salary of the injured party, usually 50 to 60 per cent, but in some cases as high as 75 per cent, with a stated minimum and maximum amount, ranging from seven or eight dollars minimum to around thirty-five dollars maximum.

Revenues from other sources do not in any way effect compensation, as compensation insurance is for a definite stated purpose, the same as life insurance, and the insured is entitled to the benefits when injured regardless of his financial status. Whether or not the employer is in any way to blame does not have any bearing in the case.

The cost of the insurance must be paid by the employer and cannot be collected from the employee, in whole or in part, in deductions from wage or otherwise.

In case of bankruptcy proceedings, either by employer or insurance carrier, compensation payments have the same status as unpaid wages in claims of creditors against the bankrupt employer or insurance carrier.

SUMMARY CALIFORNIA LAW

The following summary of the California Workmen's Compensation, Insurance and Safety Act is reprinted from a pamphlet issued by the Industrial Accident Commission under the title: "Information regarding the California Workmen's Compensation, Insurance and Safety Act."

This applies only to the California law, but will give you a general idea as to the provisions of compensation insurance law in any state. Each state makes its own law as regards this insurance and they all vary in some respects, but the general set-up is similar in other states.

FOREWORD

The information here given is only an outline of the principle provisions of the Workmen's Compensation, Insurance and Safety Act of California, intended to serve as a guide for both employer and employee. If it is not sufficient in any respect, further information can be obtained by calling at or writing to the offices of the Industrial Accident Commission in San Francisco or Los Angeles. Those not conversant with the English language should have some friend call with or write for them in order that the facts may be properly presented.

EXCLUDED EMPLOYMENTS

The law does not give compensation to employees engaged in household domestic service or labor that is both casual and not in the course of the trade, business, profession or occupation of the employer unless the employer carries compensation insurance or has filed an acceptance of the law with the Commission, nor to employees engaged in farm or agricultural labor of any description, if the employer has rejected the Compensation Act and posted notices of rejection on his premises or if the employer's payroll does not exceed \$500 in the year preceding the injury. Employees working on board vessels in navigable waters and railroad employees engaged in interstate commerce, at the time of the injury, are also excluded as there are Federal laws governing such employments and the State law cannot be made applicable.

Questions as to whether employment is excluded should be submitted to the Commission for advice.

EMPLOYER'S SECURITY

Every employer, except the State and all of its political subdivisions or institutions, who has one or more persons employed, even part time, in occupations not specifically excluded is required to secure the payment of compensation in either of the following ways:

1. By insuring and keeping insured for full coverage with an authorized compensation insurance carrier.
2. By obtaining a certificate to self-insure from the Industrial Accident Commission.

To obtain the Commission's certificate of consent

to self-insure, the employer will be required to furnish security in the form of a surety company bond or approved collaterals that are legal investments for savings banks in this state. The minimum amount of security required in this respect will be \$30,000.

If the employer complies with this provision, all of his liability to his injured employee or the dependents of his killed employee is fixed by and limited to the provisions of this law.

If the employer does not secure the payment of compensation in either of the two ways mentioned, he is not only liable for compensation but subject to a suit for damages in the Superior Courts, also. In case of the wilful failure by an employer to secure the payment of compensation, the amount of compensation otherwise recoverable shall be increased ten per cent, such increase in no event to exceed one thousand dollars.

The law makes it a misdemeanor not to so secure the payment of compensation, and the penalty for this misdemeanor is a fine of not more than \$500, or imprisonment for not more than six months, or by both fine and imprisonment.

LIABILITY OF EMPLOYER

When an employee sustains an injury "arising out of and in the course of the employment" (and the employment is not one or the excluded classes), the law requires the employer to furnish the injured with certain measures of relief.

The term injury or disease out of the employment, including injuries to artificial members. The obligation to furnish the measures of relief becomes the liability of the employer immediately after knowledge

or notice, and must be furnished or tendered without demand.

INSURED EMPLOYEES

If the employer carries compensation insurance, the insurance carrier assumes the obligations of the employer, but the employer must understand that his contract (policy) of insurance requires him to promptly notify the insurance carrier of any injury to his employee. The necessity for such notice cannot be too strongly urged. Serious results sometimes grow out of apparently slight injuries and the employer may become involved for failure to comply with his contract. Insurance carriers furnish forms for report and will advise where injured are to be sent for medical and surgical treatment.

An employer should immediately notify his injured employee of the name and address of his insurance carrier.

An injured employee should promptly notify the employer, his employer's superintendent, foreman or other person in authority, of the fact of injury if the employer or those mentioned do not have actual knowledge of such injury, in order that the employer may have opportunity to furnish the measures of relief. Failure to give such notice may prejudice and defeat a claim for compensation.

COMPENSATION

The measure of relief which the law provides is termed compensation. This term, therefore, includes both treatment and indemnity payment, and is to be furnished to the following extent:

1. All the medical, surgical and hospital treatment,

including medicines, medical and surgical supplies, crutches and apparatus, including artificial members, that may be reasonably required to cure and relieve from the effects of the injury.

If the employer or insurance carrier does not furnish such treatment after due notice or knowledge of injury, and within a reasonable time, the injured employee has a right to obtain it elsewhere and the employer or insurance carrier will be held liable for the reasonable cost.

If treatment is obtained elsewhere, the injured must select a practitioner who is licensed to practice in medicine or surgery in order to recover the reasonable cost of treatment.

If the injured prefers to select his own doctor and treatment he may do so, but it will then be at his own cost unless the employer or insurance carrier consents and agrees to pay for such service.

Where treatment is not furnished by the employer or insurance carrier, the injured must nevertheless submit to examination by a physician or surgeon selected by the employer or insurance carrier when so requested. Failure or refusal to submit to such examination will prejudice the rights of the injured to disability indemnity.

2. If the injury causes disability of more than seven days, exclusive of the day of injury, then the employer or insurance carrier shall thereafter pay the injured 65 per cent of his loss of average weekly wages during the remaining period of disability.

No indemnity is payable for the first seven days of disability, and disability commences the day after the injured quits work as a result of the injury. This

indemnity is payable on the employer's regular pay day, but not less frequently than twice in each calendar month.

The disability indemnity is not 65 per cent of the actual wage. The law provides that the disability indemnity shall be 65 per cent of the average wage, and that the average is 95 per cent of the actual.

Wages in excess of \$40.48 per week, or \$175.43 per month, are not taken into account, as the law provides that the average weekly wage shall not be taken at more than \$38.46, nor less than \$6.41. For these reasons the weekly indemnity for temporary total disability is never more than \$25.00, nor less than \$4.17. In arriving at the actual earnings, overtime is included, also the market value of board, lodging or other advantages if they are furnished as a part of the remuneration. To figure the disability indemnity correctly, where the earnings are between the minimum and maximum, multiply the daily wage by the number of days employed per week; add the overtime and value of other considerations, if any; deduct 5 per cent from this sum and multiply the remainder by 65 per cent.

3. If the injury causes the loss of any member, or impairs the normal use of any member of the body, such as amputation of bone, permanent stiffness of joints, loss of sight, hearing, etc., the result is what is termed a permanent partial disability. Where such injury occurs, or results, the Commission should be applied to for a rating when the medical and surgical treatment has been completed or the condition no longer yields to treatment. For each one per cent of loss that the rating tables, adopted by the Commission

give for such injury, the injured will be entitled to four weeks of disability indemnity. The indemnity for permanent partial disability is not in addition to what may have been paid during the period of treatment and recovery. The rating will show the total number of weekly payments to be made, beginning the eighth day after the injury, and any payments made during the period of treatment and recovery are a credit on the total to be paid under the rating. The remaining payments, if any, are to be paid as they become due and without regard to when the injured returns to work or what his earnings may be after he does return. If the disability is rated at 70 per cent or over, the injured will be entitled to the weekly indemnity of 65 per cent of his average weekly wages for 240 weeks, and thereafter a weekly life pension of one per cent of those wages for every one per cent of disability in excess of 60 per cent.

4. If the injury causes death, the employer or insurance carrier is obligated to pay burial expense to the extent of \$150, and a death benefit to those who were dependent upon the deceased for support at the time of the injury.

A person or persons totally dependent will be entitled to a death benefit of three times the average annual earnings of the deceased, but not to exceed \$5,000.00; such earnings to be taken at not less than \$333.33 nor more than \$1,999.92.

A person partially dependent will be entitled to a death benefit of three times the annual amount devoted by the deceased to the support of such person. This amount not to be more than three times the

average annual earnings of the deceased, nor exceed \$5,000.00.

Death benefits are payable in installments of 65 per cent of the average weekly wage of the deceased until the total death benefit has been thus paid.

The Commission will determine who are dependents, and the extent of their dependency, upon the request of any party in interest.

PENALTIES AND FORFEITURES

The law provides that if the injury is caused by the serious and wilful misconduct of the employer, indemnity is increased one-half.

The employer can not carry insurance against this penalty, which is chargeable too, and payable by the employer only.

The law further provides that if the injury is caused by the serious and wilful misconduct of the employee, indemnity is reduced one-half.

The last mentioned provision does not apply when the injury causes death, or results in a permanent disability rated at 70 per cent or over, or where the employee is under sixteen years of age.

The fact of wilful misconduct must be established and so held by the Commission in formal proceedings before indemnity can be increased or reduced.

No compensation is recoverable where injury is caused by the intoxication of the employee or where the injury is intentionally self-inflicted.

LIMIT OF TIME TO ENFORCE COMPENSATION

Proceedings to compel the payment of any of the benefits provided by this law are brought before this

Commission, but the legal right to maintain such proceedings is barred after a certain length of time.

Where no medical treatment has been furnished or disability payment made, proceedings must be commenced six months from the date of injury.

Any payment of compensation or agreement therefor, or furnishing of medical treatment, will extend the time six months from the date of the agreement or the last payment or last medical treatment.

Proceedings for the collection of the death benefit must be commenced within one year from the date of death, subject to certain restrictions.

These limits of time do not begin to run against an employee or dependent under the age of twenty-one until he has reached that age, or an incompetent person, unless a legal guardian has been appointed for such person.

The Commission has 245 weeks' continuing jurisdiction over its formal orders and awards, and any amendments must be made within that time.

APPLICATION FOR ADJUSTMENT OF CLAIM

Proceedings for the adjustment of any claim are instituted when an application for such adjustment is filed with the Industrial Accident Commission.

Blank forms of application will be furnished on request or will be prepared for signature at either office of the Commission.

It should be distinctly understood that no report of injury, correspondence or application for permanent disability rating will be considered the commencement of proceedings. A formal application is headed in bold type "Application for Adjustment of Claim."

When an application for adjustment of claim is filed,

due notice will be given interested parties of the time and place of hearing. A referee will conduct the hearing, and opportunity will be afforded parties to present competent evidence in support and defense of claims, and all parties should be prepared to present their evidence at such time.

AGENTS OR ATTORNEYS

If claimants desire to be represented by an agent or attorney, the Commission will fix the fee to be paid the agent or attorney out of any award, and no agreement to pay a greater sum is valid or binding upon claimants. Indemnity cannot be assigned before payment, and it is only subject to liens fixed by the Commission.

MISCELLANEOUS PROVISIONS

The law provides that the term "Casual," as applied to excluded employments, shall be taken to refer only to employment where the work contemplated is to be completed in not exceeding ten working days, without regard to the number of persons employed, and where the total labor cost is less than one hundred dollars.

An injured employee is entitled to one change of physicians. When so requested, the employer or insurance carrier shall nominate three practicing physicians competent to treat the particular case, from whom the employee may select.

Medical and surgical treatment includes nursing, medicines, medical and surgical supplies, crutches and apparatus and artificial members.

A permanent disability rating is not the Commission's award. The issuance of a rating does not protect

the injured against the limit of time to enforce payment.

IN CONCLUSION

The compensation which this law provides is the measure of the responsibility the employer assumes for injury or death that may occur to his employees, and no release of liability or compromise agreement is valid unless it provides for payment in full or unless it is approved by the Industrial Accident Commission. Where dispute arises the Commission invites correspondence or personal interview before formal application for adjustment of claim is filed.

When complaint is made or information is wanted by an injured employee through correspondence, the letter should give all the following information:

1. Name and address of employer and his business.
2. Name of employer's insurance carrier if insured.
3. Date of injury.
4. Kind of work done at the time of injury.
5. Where it happened.
6. How it happened.
7. Nature of injury.
8. Daily, weekly or monthly wages and the number of days employed per week.
9. Date of last compensation payment and date of last medical treatment furnished by the employer or insurance carrier. If the employer or insurance carrier has denied liability or further liability, the reason given should be stated.

Answers to letters or notices from the Commission should be addressed to the attention of the department from which received or to the attention of the person who signed the letter that is being answered.

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